

Apple2000

THE NATIONAL APPLE USER GROUP



hard core

THE JOURNAL
OF THE
BRITISH APPLE
SYSTEMS
USER GROUP

JANUARY 1981

£1

VOLUME 1 No 1

appletalk
the new

ITT 2020
Micro C

APPLE PASCAL

APPLESOFT

**Apple Computer wins
acclaim of Wall St**

Apple-Doc
The 3 program set is a must to have

VISICALC

Apple-Mitarbeiter

Mitarbeiter in der Firma Apple

Jahr	Mitarbeiter
78	0
79	100
80	200
81	400

Souvenir Edition 1980-1990

In the beginning ...



There were two men and a garage ...

Steve Wozniak and Steve Jobs had an idea
... and the Apple computer was born

The rest of the story is now history

Their vision has changed the world
and the world is still changing

**Apple2000 presents
a celebration of ten years of service
to the Apple community**

Contents Page



Introduction from our Chairman	Ewen Wannop	3
The British Apple Systems User Group	John Sharp	4
Minutes of SGM 22nd September 1981		5
The Apple2000 Committees		6
Our first Introductory Disk		7
Enter Macintosh	Derek Meakin	8
Inside Macintosh	Max Parrott	9
Macintosh Review	February 1984	10
John Sharp recollects	John Sharp	11
What's in a Buffer	Norah Arnold	12
User Group Round-Up	Windfall - July 1981	13
John Molloy reflects	John Molloy	14
The Apple Prunings	Jane Oros	16
Retail Price List	Microsense - July 1981	17
Advertisements	Windfall - July 1981	21
The Last One	Windfall - 1982	25
Motorola 68000 review	Windfall - January 1982	29
Advertisement	Windfall - 1981	29
Who Invented What	Jane Oros	31
Endpiece	Bryn Jones	32

We are indebted to MacUser for their permission to use the articles from
Windfall and AppleUser reproduced on pages 8, 9, 10, 13 and 29

Introduction from our Chairman



It does not seem so long ago that I bought my first Apple computer. In fact it was ten years ago, it was an Apple II and it came without disk drives or monitor! I paid almost £1000 for a 48k Integer Basic computer. The first thing I had to do was go and buy a cassette player and a monitor in order to use it.

At about the same time as I was hooking up my first Apple, a group of enthusiasts met together and decided to form the British Apple Systems User Group later to become Apple2000.

The group has grown from strength to strength and throughout its history has encompassed all of the many Apple computers that have been launched. The strength of the group has been the continuity that this experience has given its members. Collectively we hold probably the greatest fount of Apple knowledge in the UK outside of Apple HQ.

We wanted to mark the tenth birthday of the group in some dramatic way. We could not bake a cake large enough for you all to eat or even manage to get you all together in one place at the same time. We thought long and hard and finally decided that the only way we could really let you all share in this experience was to produce this small souvenir from the last ten years.

Amongst the pages you will find reminiscences, facts, nostalgia and for those new to Apple computing incredulity when reading the old advertisements.

We start overleaf with the first announcement of the fledgling APPLE/ITT2020 GROUP. It was from this small beginning that the group was formed and a regular magazine, *Hard Core* made its first appearance. John Sharp the then Chairman introduced the group and the magazine in its first issue. The group grew so fast that in September of the next year it was suggested that it should become a limited company. The company has survived till today with only a change of its trading name to Apple2000.

For those of you who have been involved with the group over the years, and who will recognise the names of all those involved, we publish a full list of the committees that have served over these years. Many of these people have now moved on to other things, but some you will see have survived in the Apple2000 fold for most of these years.

Of course in those early days we did not have four or five different disk formats to consider, and so only one introductory disk was needed. But games I suppose have always been an interest to dedicated and serious computer experts!

In 1984 the Macintosh was born. As you will see when reading the 'Prunings', it had started life nearly five years before, almost as soon as the Apple II had been launched! The Lisa was the first 32 bit computer to be launched from Apple. The Lisa was not a success, and it was not till the launch of the Macintosh proper that the project really began to bear fruit. Marking that occasion we publish a facsimile of the reviews from *Apple User* announcing the new and exciting computer from Apple.

Some of the original members of the group have given us their accounts of how it all began and what they have been doing since. John Sharp is no longer active in the group, but Norah Arnold is still our secretary after all these years! John Molloy is probably better known for his articles in *Computer Shopper* and Bryn Jones has been providing us with support and material both in the magazine and on TABBS.

A great deal has happened over the ten years, not least of all the things that Apple themselves have got up to. I hope you will be as intrigued as I was with the fascinating account of Apple's history in the pages devoted to the *Apple Prunings*. Amongst these pages you will find advertisements taken from *Windfall* (later to become *Apple User*). Imagine, a 5mb Winchester hard drive for £1450! We would expect at least 600mb for that price today.

In the next ten years we can expect even bigger changes than we have seen so far. After all, when we started out all those years ago, the magazine was printed on a daisy wheel printer with all its quirks and smudges. There was no Fax and almost no data networking. Today we produce our magazine using full desktop publishing techniques, transmit a Fax from our home and regularly call up CompuServe in the States. What new technology will be invented by then? Perhaps we shall all carry a pocket Apple computer with a paper white LCD screen hooked in by satellite to a global data network. We will be able to do all our data processing while sunbathing on the beach! What is sure is that the Macintosh will either be obsolete or be a very different animal indeed.

I hope you will enjoy reading the articles in this special issue as much as I have done putting the collection together. I wish you all well over the next ten years and hope you stay with Apple2000, and your Apple computer, till we meet again at our next anniversary.

Ewen Wainop - Chairman Apple2000 1989-91

The British Apple Systems User Group 1980 - 1990



APPLE/ITT2020 GROUP

NOTICE OF INAUGURAL MEETING SUNDAY NOVEMBER 9TH AT 2.30 PM

To bring together Apple and ITT2020 owners a user's group is to be set up with its first meeting on the afternoon of Sunday Nov 9 at 2.30 at 1 Branch Road, Park Street, St. Albans.

If you are having problems programming or knowing how to use your machine, then someone else has probably had the same problems and solved them. If not then two (or more) heads are better than one. If you have solved some sticky problems then there are others who want to know how you did it.

Unless you are working with an Apple 24 hours of the day you can't know all the ins and outs of the machine or how to program everything you might want to. By pooling information, when it is necessary to find out, there is usually an expert. Most people tend to specialise when computing is their hobby, or would like to find out how to use the computer in other ways at home when it is a business machine. When you want to move to another activity or have a problem it is a great help to have someone to put you on the right track. In return you can pass on your expertise. If you are a beginner (and we all were once) you can learn much faster and have someone to turn to when you run into a corner, if you have a group to call on.

There are many listings in magazines which it would be nice to type in if only there was the time. A group can share the effort, and there is much more chance of ironing out the bugs. Help spread the effort around.

Groups also have much more muscle with manufacturers. Joining up with other groups helps widen the net. We intend to join the International Apple Core.

We need to know what your interests are. If you want courses, or have other ideas for meetings you must let us know. Please do so by filling in the form and sending it back, before the meeting if possible.

** This is especially important if you are not able to meet that date.

For more details contact:
John Sharp

Contributed by Norah Arnold

Introduction from the Chairman - Hard Core January 1981

The Story So Far

The British Apple Systems User Group was formed on 9th November 1980, when some forty Apple and ITT 2020 users met at The Old School, Branch Road, Park Street, St. Albans.

The name and aims of the group were discussed and decided upon, and a steering committee was elected, charged with the task of preparing a constitution to be put before a General Meeting of the group in the spring of 1981.

It was decided that meetings would be held on one Tuesday evening and one Sunday afternoon a month, and subjects covered so far have been the Alf Music Synthesiser Card and Speech Synthesis, as well as a 'Workshop Session'. Attendance has already grown considerably, and larger premises will probably have to be found in the very near future.

I have mentioned above that the Journal itself will primarily consist of original material contributed by members. This is because we will be exchanging newsletters with a large number of other user groups throughout the world, and to airmail to these groups copies of our journal padded out with their own material doesn't make sense.

As a general rule, therefore, these newsletters will go into the club library with an index published in 'HARD CORE', and all the material of a general interest from these newsletters, as well as general interest items from the IAC's LAPNOTES and other outside sources, will be published under the title 'APFILE', usually issued as a supplement to 'HARD CORE'. Having said this, there will of course be occasions where material from outside sources for various reasons appears in 'HARD CORE' itself.

Mail

All mail should be addressed to the group's Post Office Box address, but to ease the problem of sorting please indicate on the envelope the subject of your letter.

Patience

The group has only been established a very short time, and is growing fast. There is no paid administrative staff all the work is done voluntarily. So if at first you have to wait a few days for a response - be it concerning membership, software library, Apnotes, or whatever - please be patient.

One of the declared aims of the group is to set up local groups as soon as possible. In the meantime the committee are conscious of the problems of those members living too far from North London to attend meetings, and will ensure that you aren't treated as 'Second Class Citizens'.

If you would be willing to act as an 'Area Coordinator' please write in.

Another of the aims of setting up the group was to act as a 'pressure group' on manufacturers, distributors, and dealers if necessary.

If any member has a problem where he feels we could be of help please say so. Conversely, if you feel someone deserves mention for particularly good service, use the Journal as a platform.

**Minutes of the SGM held at the Hatfield Polytechnic,
Hatfield, Herts, Sunday 22 Sept 1981**

The meeting was opened at 2.45 pm with Frank Kay, BASUG Chairman, in the chair. There were 29 members present in person and 40 proxies.

The Chairman explained that the meeting had been set up to enable BASUG to continue, since no subscription had been decided at the AGM. Item 1(a) on the Agenda was then discussed, namely:-

"That the annual subscription for 1982 be TEN POUNDS for renewing members, and TWELVE POUNDS FIFTY PENCE for new members."

Warren Avery suggested that, since the only difference between the £10 and £12.50 for new members was to get the Introductory disk, that a fee of £10 be charged for membership, but that £5 be added as a joining fee.

There was much discussion over whether there ought to be a separate joining fee. It was pointed out that the new member would get a revamped introductory disk, but that it would not be substantially changed. The member joining for 1982 would only get issues of **HARDCORE** for that year, but could get back issues by paying for them. As to whether the amount was right, it was pointed out that the Committee had obviously discussed the matter and deemed it to be adequate. The Committee have discretionary powers regarding late joining subscriptions, and this had, been set at £6 for 1981 for those joining after 1 October, but this only entitled the receipt of issues 5 & 6 of **HARDCORE**, with the option to pay the full £10 and receive all back copies.

It was proposed and seconded to amend the motion to read:-

"The annual subscription for 1982 be £10 and there shall be a one-time joining fee of £2.50."

The amendment to the motion having been carried unanimously, the amended motion was voted upon. The vote was unanimously for the motion.

In declaring the motion carried, the Chairman cast 27 proxies in favour of the motion.

Item 1(aii):-

"That all persons submitting subscriptions postmarked later than 31 JANUARY 1982 be deemed new members."

was discussed at some length. There were some objections as to its validity. Chester Kemp pointed out that the motion was unclear, all members subscriptions having lapsed on 31 December, all those joining in 1982 would be new members. The period was questioned, as was the difficulty in meeting January 31 for some people. It was pointed out that even if you paid the joining fee as well, you were only not paying £2.50 but getting a disk as well.

On a point of order Ian Trackman stated that it should be at the Committee's discretion to decide, since it would require an amendment to the constitution to define a new member.

A vote was taken that the motion not be put to the meeting. There were 26 for, 2 against, with 1 abstention.

The motion having been withdrawn, the views expressed were that it should be referred back to the Com-

mittee for decision.

Discussion took place as to whether there should be rolling membership. No decision was made; the Committee's view in previous discussion was that this is undesirable. It would require an amendment to the constitution.

The point of membership cards was also brought up, and the Committee stated their intention to bring them in.

Item 1(b) on the agenda was then discussed, namely:-

"That the committee take steps to establish a company intended to be known as 'BASUG LTD', subject to the approval of its constituting documentation at a further General meeting.

Richard Zawadzski pointed out that a limited company would have advantages such as being VAT registered, but that problems with directorships would arise.

Frank Kay said that the main reason the Committee had decided to go this way was to ease the burden of administration.

Bruce Snyder asked about shareholders, and Ian Trackman said it could be set up with Trustees to hold the shares on behalf of members of the club.

There then ensued a long discussion regarding the wording of the motion. The crux of the argument was whether the Committee should "take steps to establish" or whether they should investigate the establishment of a company and report back. Vernon Quaintance pointed out the company would involve heavy expense on legal documents to set it up, as well as expenses such as auditors fees. There would be a need to have two AGMs, one for BASUG and one for BASUG LTD. On the other hand it would be a means of reducing the liability of the committee. The local groups could take over a great deal of the administrative burden. He therefore suggested a vote against the motion.

The point about local groups was answered by John Sharp; it was difficult to get them off the ground. Only the Raynes Park one was going, as a BASUG initiative. The group at Leicester was now affiliated, but had set themselves up as a group because they had seen BASUG as a ST Albans area group.

The motion was amended to read:-

"That the Committee take steps to investigate and produce a report for approval at a further general meeting, on the establishment of a vehicle to improve the future cost effectiveness and administrative efficiency of the management of the clubs affairs."

Item 2. Appointment of auditors.

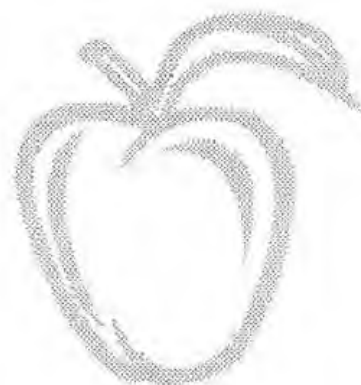
There was discussion as to whether they should be outside the club or not, and it was pointed out that it would cost money if external auditors were employed.

The meeting gave the committee discretionary powers to appoint auditors for 1981, and as a first choice should chose from professional members within the club.

An appeal should go out through Hardcore.

The meeting closed at 4.30.

The Apple2000 Committees ...



Committee 1980-81

Chairman
Secretary
Treasurer
Members

Admin
Editor

John Sharp
Martin Perry
David Bolton
John Rogers
Tony Williams
John Sharp
David Bolton

Committee 1981-82

Chairman
Secretary
Treasurer
Members

Admin
Editor

Frank Kay
John Sharp
David Bolton
John Rogers
Tony Williams
John Rodger
Eddie Payne (briefly)
John Sharp
David Bolton

Committee 1982-83

Chairman
Secretary
Treasurer
Members

Admin
Editor

Norah Arnold
John Sharp
Fran Teo
David Bolton
John Rogers
Bob Raikes
Jim Panks
John Wellsman
John Martin
John Sharp
David Bolton
Tony Williams

Committee 1983-84

Chairman
Secretary
Treasurer
then
Members

Admin
Editor
then
Advertising

Bob Raikes
Norah Arnold
John Wellsman
Roger Gear-Evans
John Rogers
Jim Panks
David Bolton
Quentin Reidford
Keith Chamberlain
Alick Elithorn
Fran Teo
Tony Williams
Yvette Raikes
Sheila Hirst

Committee 1984-85

Chairman
Secretary
Treasurer
Members

Admin
Editor

Committee 1985-86

Chairman
then
Secretary
Treasurer
then
Members

Admin
Editor
BABBS

Committee 1986-87

Chairman
Secretary
Treasurer
Members

Admin
Editor
Macintosh Editor
BABBS

Bob Raikes
Norah Arnold
Roger Gear-Evans
John Rogers
Jim Panks
Graham Attwood
Richard Beck
Richard Boyd
Keith Chamberlain
Tony Game
Roger Harris
Quentin Reidford
Peter Trinder
Ewen Wannop
Fran Teo
Yvette Raikes

Quentin Reidford
Jim Panks
Norah Arnold
Jim Panks
Irene Flaxman
Graham Attwood
Richard Boyd
Keith Chamberlain
Ewen Wannop
William Watson
Tom Wright
Sheila Hirst
Jim Panks
Tony Game

Jim Panks
Norah Arnold
Irene Flaxman
Graham Attwood
Keith Chamberlain
Ewen Wannop
Ivan Knezovich
William Watson
Tom Wright
Nick Hunter
Sheila Hirst
Jim Panks
Norah Arnold
Tony Game



Committee 1987-88

Chairman
Secretary
Treasurer
Members
BABBS

Admin
Editor
Macintosh Editor
BABBS

Committee 1988-89

Chairman
Secretary
Treasurer
Members

Admin
Apple Editors
Macintosh Editor
with

Committee 1989-90

Chairman
Secretary
Treasurer
Members

Admin
Apple Editor
Macintosh Editor
with

Committee 1990-91

Chairman
Secretary
Treasurer
Members

Admin
Apple Editor
Macintosh Editor
with

Jim Panks
Norah Arnold
Irene Flaxman
Graham Attwood
Tony Game
Keith Chamberlain
Ivan Knezovich
Seth Proctor
Sheila Hirst
Jim Panks
Norah Arnold
Tony Game

Mick Knapp
Norah Arnold
Irene Flaxman
Keith Rookledge
Kenneth Hegarty
Ewen Wannop
Tom Wright
John Lee
Alison Davies
M Knapp, E Wannop
Norah Arnold
Irene Flaxman

Ewen Wannop
Norah Arnold
Irene Flaxman
Keith Rookledge
John Lee
Roy Wainwright
John Arnold
Alison Davies
E Wannop
Norah Arnold
Irene Flaxman

Ewen Wannop
Norah Arnold
Irene Flaxman
John Arnold
John Lee
Elizabeth Littlewood
Irene Flaxman
E Wannop
Norah Arnold
Irene Flaxman

Our first Introductory Disk

David Bolton wrote in his first letter to those who attended the inaugural meeting:

"You will recall that at the time a membership fee of £10.00 was decided upon it was agreed that this would include a disk of non-copyright and original material, and this is now available. An index is enclosed with this letter."

5.25 inch DOS 3.3 INTRODUCTORY DISK (DECEMBER 1980)

CATALOG

DISK VOLUME 254

*A	003	HELLO
*B	022	INTEGER
*I	016	LIFE
*I	050	HAUNTED CAVE
*A	007	CHICKEN
*A	005	APPLE ROSE
*A	017	ZOMBIE ISLAND
*A	009	FIVE GUESSES
*A	012	HIRES DEMO
*A	019	HANGMAN
*A	018	BLACKBOX
*A	019	APPLE INVADER
*A	009	NIGHTMARE
*A	016	GRANDAPPLE CLOCK
*A	021	SPACE MAZE
*A	007	KEYNOTE
*A	017	EDIT+/DISK VERSION
*A	011	MACHINE TO POKES ROUTINE
*A	008	BINARY FILE COPIER (TO DISK/TAPE)
*A	004	SHAPE DESIGNER
*A	015	SHAPE DES ASSEMBLER
*A	021	SHAPER
*A	004	SHAPE-PROG
*B	009	SINGLE DISK COPY
*A	012	AUTOAPPLESOFT
*A	021	MINI ASSEMBLER
*I	007	ORGAN
*A	014	SEARCH/CHANGE

Contributed by Norah Arnold

Enter MACINTOSH

AFTER months of intense speculation throughout the computing world, Macintosh has finally arrived. It has everything all the experts were hoping Apple would include in their new micro. But much, much more as well.

It looks like a cut-down version of the revolutionary Lisa, which itself was launched exactly 12 months ago. And it contains most of the features that created such a sensation when Lisa was unveiled.

But it has even more refined capabilities – which is perhaps only natural as it has enjoyed an additional 12 months' development time.

Producing Lisa took four years and \$50 million. Developing Macintosh cost an extra \$25 million.

The result is a machine that stands head and shoulders above anything else on the market.

The few people outside

It's Lisa technology for everyone in a super pint-sized package

By DEREK MEAKIN

Apple who were permitted to try it out prior to its January 24 launch raved about it. And with good reason.

But even more remarkable is its price. Although this had not been finally fixed before Apple User went to press, it is expected around £1,500 to £1,700 – less than a quarter of Lisa's launch price.

Naturally, Apple are expecting massive sales and are gearing up for volume production. The Fremont factory, where it is being produced initially, will be turning out one Macintosh every 27 seconds.

Who will be buying Macintosh? The target customers are what Apple calls "information workers". They are aiming at people, not big corporations, and they say that is the big difference between their approach and that of IBM.

Macintosh is by far and away the most advanced micro at its price. Because it does not have the technical complexities of the conventional micro, it overcomes the fear element that still frightens many office workers.

An Apple executive gave me this description of Macintosh: "In so many ways it steps outside the existing boundaries of personal computers."

"It sits neatly on your desk, unobtrusive. It's just like your phone – you pick it up and use it when you need it."

"But it's very much a productivity tool. It helps you get through more work in a day – and far more efficiently. It opens the door to a mass of applications you may never have thought of before."

"And while it is principally designed for the office it is also a home machine as well."

"Because of its portability – it can be easily carried around in its canvas holdall – I can foresee many people taking it with them when they leave the office at night."

"What for? Well, they could be taking work home with them. Or they could use it for management training games."

UNLIKE Lisa – which is only available through a handful of specialised outlets – Macintosh will be sold by all Apple's 420 dealers in Britain.

Although machines specially designed for the British market will not be shipped from Apple's Fremont factory until April, a number of UK Apple dealers should have first supplies this month.

However these will be US-specification machines and will only be used for demonstration purposes.

Or other even more relaxing purposes."

When Macintosh goes on sale in Britain in April a wide range of Apple-produced software will be available – all on 3½in microfloppy discs.

They will include a word processor, spreadsheet, project management program, an extremely sophisticated drawing utility and a number of program languages. All will be priced at £99 or below.

But as was done so successfully with the old Apple II, every encouragement is being given to third party development of software.

More than 100 software houses – big names like Microsoft and Lotus – are already well ahead in producing Macintosh programs. And they are so enthusiastic about the machine that they are all going in for it in a big way. One major company is now devoting 50 per cent of its total R & D to Macintosh developments.

Initially, a third of all Macintosh programs are expected to be produced by key software houses in Britain and Europe, which should give a strong foothold in the profitable export markets that Macintosh will be opening up all round the world.

What Mac packs...

- ★ 16 bit machine based on the Motorola 68000 processor, using 32 bit technology
- ★ 192k memory, consisting of 128k RAM and 64k ROM.
- ★ 21k bit-mapped screen display.
- ★ 512 x 342 square-shaped pixels.
- ★ Built-in 3½in Sony microfloppy disc drive, with 400k disc capacity.
- ★ Detachable 128 character keyboard.
- ★ Built-in 9in black and white monitor.
- ★ Mouse pointing device for cursor control.
- ★ Two RS422 ports.
- ★ Ports for mouse and external disc drive.
- ★ Removable reset and interrupt buttons.
- ★ Complex sound output circuitry.
- ★ Weight: 22lb.
- ★ Size: 13in high, 10in wide, 10in deep.
- ★ Availability: Launched in USA on January 24, available in UK by end April.

MACINTOSH weighs 22lb, measures 10in x 10in with a height of 13in and contains the computer, screen, a 3½in Sony disc drive and various ports along the back.

A special screwdriver is needed to get into the machine, but there is no attempt to hide things — indeed the inside of the cover has the signatures of the design teams moulded into it. Some very famous names are represented.

The machine is designed for both the serious programmer/hardware specialist and the end user who just wants the right tool for the job.

For example, on the left side of the box, low down, are two buttons — the reset and an interrupt button.

These can simply be pulled away from the side so that their availability is lost to the user if you desire. But they can then be snapped back when required.

The interrupt button is interesting for programmers. It allows you to edit the program while it is running, and you can see your changes actually happening in the window.

Macintosh also has a detachable keyboard and a mouse. The keyboard is a full, 128 character, international standard unit which appears to be programmable.

There are a couple of extra keys labelled OPTION and COMMAND. These are used in conjunction with the mouse to change, for example, the displayed character set.

INSIDE MACINTOSH

**MAX PARROTT takes a mouse tour round
the latest micro to come out of Apple**

Macintosh comes with a set of Greek and mathematical symbols as well as standard alphabetical characters.

All of the characters are displayable in a dozen or so fonts at different pitches, ranging from 15 to the inch downwards in size. You can also design your own character sets.

The machine suggests the best pitches for each font at the time of choosing but you don't have to accept this. Cursor movements are generally controlled via the mouse but not slavishly so. Keyboard control is also available.

The disc drive houses 3½in Sony microfloppies. We cannot really call them floppies any more as they come in rigid plastic boxes which they never leave.

The boxes are automatically opened on insertion into the machine and so data and programs are much safer than with the more familiar 5¼in

floppy discs.

Microfloppies have a metallic hub to ensure accurate registration.

In addition, Apple's unique formatting process allows 400k to be saved to each disc, which is more than the Sony standard of 320k.

Apple's own software is to be distributed unprotected and hopefully third party software houses will do the same.

Generally a data disc can be used as well as the program disc in the same drive since the operating system remembers what's where and what's going on.

For example the catalogue of the last used five discs are remembered and up to 30 shadows of their icons can remain on screen.

A system disc has a 120k operating system and housekeeping code on it and so has to be in the machine sometimes, but when it is needed you are prompted to put in the right disc.

Macintosh knows when you've done so and starts the drive up. It also ejects a disc when it is no longer required.

With Macintosh you receive two copies of the system disc, a blank disc, and a "tour of Macintosh" which, when run in conjunction with a cassette audio tape, guides you round the system.

I cannot believe that much guiding will be necessary since, like Lisa, once the modus operandi is understood you're away. There is a manual but you won't need it for a long time.

The computer itself hides behind and under a 9inch (glass, not anti-glare) monochrome screen with a resolution of 512

x 342 pixels, which are square-shaped for easy programming.

Macintosh could handle colour but Apple hasn't yet found a colour monitor with the required resolution at the required price.

However as Macintosh provides an infinite range of black and white shades which will be more than adequate for an office environment, colour isn't very important.

The system and its programs — applications might be a better word — are controlled via pull down menus, icons, overlapping and moveable windows — all under the direct control of the mouse.

It is driven by a Motorola 68000 running at 8MHz and has 192k of memory consisting of 64k of ROM and 128k of RAM.

The ROM looks after the I/O and screen handling generally via managers available to the programmer as something like 480 system calls.

There is a text editor in the ROM and a resource editor enabling software to be personalised by the end user. For example, error messages can be easily changed.

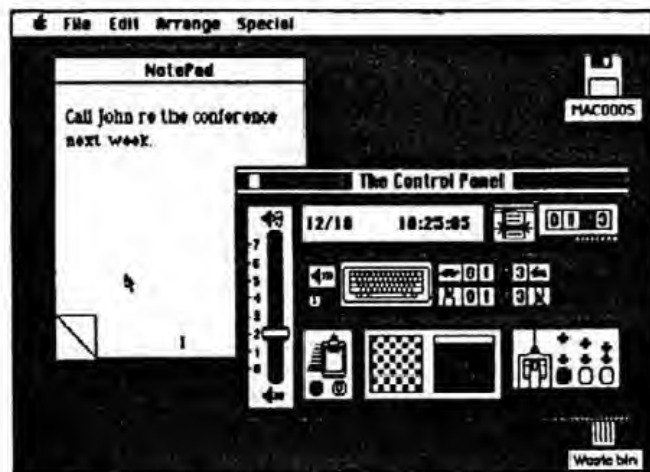
More importantly, the end user can have control over input. A spreadsheet application can be made to accept only numerics in one column or text in another but without programming.

Software therefore will use the full Lisa technology since it will be so easy to implement.

Furthermore, since the text editor is available with full, easy control over the pulldown menus and windows and icons, software writers should, in theory at least, be able to combine the flexibility of their own ideas into a common technique of program control.

Applications generally are written so that there is a hard and a soft part of the code. The resource editor allows you to change some parts to suit yourself — an interesting and useful idea.

Apple has produced a series of the more usual kinds of applications. For the programmer there is an assembler/debugger. Pascal, under which most software is expected to be



Pages or windows can be overlaid, enlarged, reduced, moved to foreground or background, saved on disc — or thrown in the bin!



Now Apple promise even more in '84

MACINTOSH is only the first of some remarkable products to come from Apple this year.

The company says that while 1983 was undoubtedly the Year of Lisa, it was also the Year of IBM - "who entered our market to help make it respectable".

Throughout 1984 Apple will be making giant strides to increase the lead they already hold, principally by concentrating on new products based on Lisa technology.

One forecast from a usually reliable source is that the same kind of mouse-and-window could well be adapted to Apple's existing 8 bit range.

And if that comes true it could mean a dramatic shot in the arm for the Apple IIe and III.

written, boasts all kinds of useful utilities around it and procedures within it.

Syntax is checked and part compilation, at least, occurs line by line when entered.

Also there is a structured Basic and Logo. The Basic uses labelled subroutines, doesn't

need line numbers and in common with the other languages can be edited in one window while being run in another.

There is also an interpreted Pascal available which, like all the other languages, is given extensive window handling cap-

abilities. Fortran, Forth and C are promised to appear very soon.

Apple's other utilities include MacWrite, a very powerful line-orientated word processor - one of the very few which genuinely exhibit on the screen what you will see on paper. The

only other that I've seen is LisaWrite.

MacPaint is a drawing utility that comes with MacWrite and is like LisaDraw but with certain differences.

For example, objects are not moveable but the bit map is, and the bit map can be exploded on

Now desktop computing has really arrived

HOW big is your desk? Can you make do on one that is 4ft by 2ft 6in? Or do you need an executive-sized 8ft by 3ft?

When you become a Macintosh user you'll be able to reduce your working area to an incredible 7½in by 5½in.

That is the size of the Macintosh screen. In theory all the work you normally do at your desk can be carried out on a screen that is smaller than a sheet of notepaper.

And much of the work can be done with your hand resting on the plastic mouse - without hardly ever needing to touch the keyboard.

You can inspect files, transfer documents, schedule projects, perform detailed financial planning, draw graphs, write reports, send telex messages, talk directly to other computers - the list of possibilities is virtually endless.

When Lisa was announced 12 months ago one of the features that created most comment was how easy it was to use.

A newcomer to computing needed no more than 20 minutes to understand what it was all about and have it up and away.

Macintosh is even friendlier. Fear of menus is a thing of the past. No longer are

you faced with lists of options to get you into parts of the programs - and have you forever leafing through the manual to find out what to do next.

When you switch on Macintosh the first thing you see on the screen is a picture of a disc. That asks you to insert one. You do so and your new "desktop" suddenly becomes alive.

Next to materialise are the icons. These are graphic symbols that tell you what is available to you - the contents of your files, the different application programs, a calculator, a real-time clock... even a waste bin at the foot of the screen

into which you can deposit material you no longer need.

Documents you pull out of your files can be placed anywhere you want on the screen, and can be overlaid one on top of another.

In fact, anyone who habitually has an untidy conventional desk can just as easily clutter up his Macintosh screen.

But there's one big difference. Decide to have a tidying up operation and within seconds, the mouse scurrying around the screen will collect everything and put it neatly away.

Yes, with Macintosh the office of the future has really arrived.

John Sharp our first Chairman recollects



Rambling recollections

Little did I know what was happening 10 years ago when I bought an ITT2020 (a what?) and where it would lead. If you haven't been on the Apple scene that long, it may not be that apparent how different life for the personal computer owner was, even that short time ago.

When Nora Arnold asked me to write about the Apple User Group - 10 years on, I jotted down some notes and they have turned out as nostalgia, but also wonderment that life could have been so different and crude such a short time ago. It just makes me wonder what is going to happen in the next 10 or 20 years.

How it started

I was interested in graphics. I wanted a computer which would allow me to produce lots of ideas quickly. This has certainly happened, bringing its own problems of opening yet wider windows. ITT had bought the rights to use a machine called the Apple. This was the 2020. It was slightly different. It had more resolution, except that standard software looked as if it was running behind bars. In order to understand this sort of problem, I wanted to meet other users. The problem was there weren't that many who could afford such a beast as a personal machine. The ZX80/81 was the nearest most people could run to.

There was a feeble user group but there was also a shop in Tottenham Court Road. Ten years on, it has seen many transitions, now into a bed shop. This was LION, under the management of Andrew Margolis, an unofficial hub of activity for Apple users. There were no books, a few fledgling magazines but plenty of enthusiasm. Apart from others I met there, two were to be instrumental in changing the direction of my life. (If you think this is beginning to sound like a pulp novel or a soap, with some of the happenings behind the scenes in the next few years, I sometimes wondered whether I was dreaming.) Warren Avery and John Rogers showed me software they had. As now, you didn't ask questions about it, you just lapped up the new developments. I remember the first time I saw a word processor: Applewriter. It was so sophisticated; the upper case characters showed on the screen in reverse because the Apple still didn't have a full character set!

Well then I met Martin Perry through my work. He visited America and brought back some of the early CALL-APPLE magazines, from whence I found out Apple were possibly going to help out with user groups through the International Apple Core (sic). (If I read this in another 10 years time, I will be even more convinced it is pulp fiction.) Somewhere in this succession of meetings I made contact with someone who lived fairly close, someone who advertised a disk of relocated Integer Basic, and a means to back up your Visicalc disk - David Bolton.

I only wanted to form a local user group, but David had bigger and better things in mind - a National Group! A few others had tried, and failed. We had a meeting in Park Street one Sunday afternoon in December and BASUG was born. My free time for the next three or four years disappeared too.

The group went from strength to strength. It was not as successful as a couple who lived in south London who bought software literally by the suitcase full from the USA and sold it at a handsome profit (Pete and Pam Fisher), storing it on their stairs and under their bed. We had users flocking to meet us from all parts of the country with our Sunday afternoon meetings; some coming hundreds of miles. Quentin Reidford must have held the record for coming from Sheffield. He became Chairman at one point. The talks and demos were interesting. Frank Kay as a local dealer gave a lot of support, also becoming Chairman at an earlier stage.

During these four years, software matured. The market changed. I decided chemistry was too boring. BASUG helped me make the change to computing. I started writing printer manuals for Epson, and did my bit for helping to Anglicise Japan. I had so many trips to the Japanese Alps, I hardly had time to recover from one before I was preparing for the next.

How the world has changed

I have moved away from Apple, to IBM PCs. I gave UNIX a try for a while, but decided they it was too full of techies living in the past. The UNIX community is getting its act together with MAC-like interfaces. I'm not totally convinced that they are the answer, all the time. I use GEM - the first done - on the ATARIST and with Ventura Desktop Publisher on the PC. I have used Windows, but find it obtrusive. In the long run, the user interface is important, and a consistent one like the MAC's is more important. I also work on VAX 8550. Here the interface is positively out of the ark. Colleagues I am converting to the PC interface and tools available are beginning to see why I find it like going back 10 years. I also see that you need a range of interfaces for different levels of user, just like there are newspapers ranging from the SUN to the Independent.

The most impressive differences are the quality of graphics and output devices. The speed of programs like FRACTINT for drawing fractals and in glorious colour. Cheap CAD and paint programs. DTP has made my life easier too. I still feel Ventura excels for the work I do - producing lots of documents. Pagemaker is a translation of conventional methods to a computer. Ventura was a step forward - and is being transferred to the MAC. Where will it all end?

Must get on with some PostScript diagrams. Thanks BASUG/APPLE 2000 for helping me on the way in the world. Best of luck for the next 10 years.

John Sharp

What's in a Buffer?

Norah Arnold remembers



My husband and his friend stood intently staring at our Apple II.

"Where's it gone?"

"It must be in the buffer."

They were referring to a passage of text which they were trying to display on the screen. Sounds simple, doesn't it? But this was before we had any word processors for the Apple II and it was necessary to write your own 'Exec' program in order to display the text at all. Their text had 'disappeared' but was, according to them, in the buffer.

At the time I was under the mistaken impression, shared by my Oxford English dictionary, that a buffer could be either an apparatus for deadening impact, especially of railway vehicles, or an old or incompetent fellow.

It was at this precise moment that I made the decision that I would get to know how the Apple II worked, from inside out. When my husband was lecturing in the evenings, I played with the machine all by myself and was soon familiar with Applesoft BASIC and getting to know all I could about PEEKS, POKES and CALLS.

I started to play with programs like VisiCalc and to apply them to my work and I remember that 'The Educational Applications of VisiCalc' was the subject of the very first demo I gave at a BASUG meeting in 1981.

It wasn't long before I became completely hooked on animation and 3D graphics. Bill Budge and Paul Lutus were my heroes at this time. I started to disassemble the 6502 code of everything I could get my hands on. JSR \$DEBE; JSR \$E6F8; LDY #\$10; LDA \$C081,Y; AND #\$08; BNE \$030D etc. ad infinitum.

It was at about this point that I turned the computer into a 'no maintenance' aquarium by writing a program in assembly language which caused coloured fish to swim gracefully across the screen when the computer wasn't being used for anything else. I carried on improving this program, especially the way each fish moved its fins differently and opened and closed its mouth, right until the first Macintosh entered my house.

The Park Street Connection

I remember with a great deal of pleasure some of the early meetings of BASUG at Park Street. We had a meeting with about a dozen different printers there, at which one of our friends was rash enough to pull a printer card out of a slot while the machine was switched on. Definitely not recommended!

It was amazing what the old machines would stand. A friend was demonstrating his newly purchased Super Serial card and we had the top off the Apple II when our cat decided to investigate and jumped into the machine, blowing the

whole operation. I had visions of having to replace the serial card, etc., but to my amazement the whole thing came back to life when we rebooted just as if nothing had happened.

Enter the Music Box

At about this time, the Mountain Hardware music system came into my life. It comprised two boards for the Apple II, containing sixteen digital oscillators. Each of the sixteen oscillators generated a waveform that was completely programmable, ranging from simple sine waves to some that were very complex indeed. This system also introduced me to the American habit of calling any music whatsoever a 'song'. I must have been fairly mad on the day I decided to program it to play Handel's 'Entry of the Queen of Sheba' but at least I now have a very clear appreciation of the number of notes there are in this work!

On the day that I demonstrated to a gathering at Park Street the final rendering of the Queen of Sheba, another historical event occurred. Without my realising, a young friend had manoeuvred me into a chair right in front of one of the large pair of speakers we were using. A few seconds later I leapt up, under the impression that someone had just thrown a stone through the window. That was, to my knowledge, the first public demonstration of what was later to become the Greengate DS3. Some young friends had succeeded in making a 'sound sampler' and had replayed into my ears the sound of a breaking milk bottle they had recorded earlier.

One notable memory of those days in the early 1980s was the speed at which things travelled. A member who visited America wrote to me on his return to say that he had visited a computer graphics show in Philadelphia and the very first thing he had seen on entering was a large screen showing a picture of two bears on a beach eating a banana, with an animated fly buzzing around the banana. He had recognised this as mine and wondered if I knew how it had got to Philadelphia. I hadn't got a clue. I had done this picture to amuse my children and as far as I knew no one else had a copy!

Another thing I remember with interest was being asked to animate pictures of different types of grain silos for ADAS who are part of the Ministry of Agriculture, Fisheries and Food. Apparently they were using Apple II machines to take to isolated farmers, where they would demonstrate the benefits of the different types of silo. It was fascinating learning how the augers moved the grain through the air-flow and portraying this on screen.

I also remember some of the early Apple shows, especially nearly being run down by a madman in a little car on the way to a show in Slough. Still, I understand even worse things happen on the way to Stockley Park!



Teething Problems

The magazine was a constant source of worry in the early days. I recall Bob Raikes explaining how he left the printer running off the final copy of the magazine while he went to have some lunch. On return he found that the printer had developed a fault soon after he had left, so that only one letter was printed on any one line. Instead of a small heap of paper with the magazine nicely printed, he found an absolute mountain of paper with hardly anything on a sheet, but unable to be used for anything else.

Committee meetings seem very quiet these days compared with some in the past. Certainly no one emulates the gentleman who, when defeated in a vote, rushed out of the house and finding his car blocked in, drove out the quick way, straight over Jim Panks' flower beds. Nor do we have meetings in surroundings equal to those at Bewdley, where animated discussions as to policy were punctuated by visits to Ivan Knezovich's sea lions (even the baby one understood eighty words) and rides on the Octopus.

We meet our Hero

It is always a big day when one of your heroes turns into a real person that you can talk to, joke with, and get to know. So it was when Steve Wozniak, the legendary millionaire creator of Apple visited Apple2000 and agreed to become an honorary member. I must admit that I still have the photograph of myself and colleagues with Steve over my computer at this moment.

It is interesting to think how things have changed in other ways, too. Ten years ago my computer had 48K RAM (a lot for those days) and my first box of floppy disks cost more than £50 even though they did not store a great deal of information. The computer I use now has 4 Megabytes RAM and an 80 Megabyte hard disk. I also have access to approximately 400 Megabytes of storage in the form of cartridges and almost 3000 Megabytes of ROM in the form of compact disks.

The most amazing change, however, has probably been in the speed and reliability of the exchange of information via modems. I now log on to CompuServe and Knowledge Index without a thought and I have yet to see any information garbled on its way over from the USA.

What the future holds we do not know. More important still, we have no idea how long we will be able to keep up with the forefront of technology as it develops. 'State of the art' machines will always be expensive and may eventually become out of our reach. But until then, long live Apple2000!

Contributed by Norah Arnold

User Group round-up - BASUG

USERS of Apple computers in Great Britain have been slow to get successful user groups off the ground. Now a number are sprouting up all over the country. The largest is BASUG - the British Apple Systems User Group. It was started last year as a voluntary group totally independent of manufacturer, dealer or indeed any commercial enterprise.

Because there was such an obvious need for an active user group for the Apple membership has grown very rapidly, from 20 last December to more than 300. There are members in all parts of Britain and a growing number in other parts of the world, from mainland Europe to as far afield as Africa and Hong Kong.

The ideal situation is for users to talk with others at a local meeting, and mull over any mutual problems. But a national group is also needed to help those who can't attend regular meetings, or who are isolated and have no one to turn to to answer the thousands of problems large and small that arise, either with existing software or when writing their own.

BASUG is centred near London at present for no better reason than that is where the inaugural group happened to live. The aim is to liaise with other existing groups and to put members and inquirers in touch with each other. Where a number of people in a particular locality do not have meetings to go to, then BASUG will do its best to help them get a group started.

A large group can offer a number of benefits. There is more muscle to use if a manufacturer is not providing the service the users expect. Suppliers are often willing to offer deals to larger groups but not to a proliferation of little groups, for which they just couldn't justify the effort.

Any group will have members with a diverse range of interests, and the larger the group the more likely it is to find someone with a similar problem or a common solution. BASUG is setting up special interest groups to cope with this.

A similar argument applies to courses since it is unlikely that a small group could have sufficient to pay for such an undertaking. Co-operation can only benefit everyone.

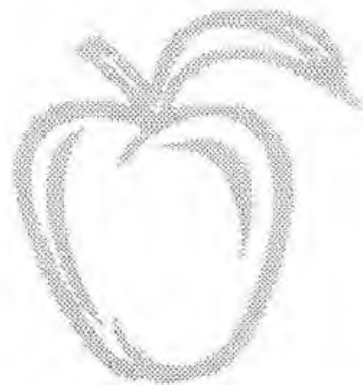
What does BASUG have to offer? Initially a clearing house for information on all aspects of the Apple and IIT 2020 (and the associated problems), from the beginner level to the most advanced. There is a bimonthly journal, *Hardcore*, which has the personal touch of the user as well as having a very high standard of content.

There are two software libraries. One contributed by the members, contains listings from magazines as well as those written by members themselves. This works on an exchange basis. The other exists as the result of contacts with other user groups throughout the world. There are 20 to date with more arriving each month. Where else can you get a disc full of software for £3 including the disc? Then there are meetings with demonstrations and talks.

The membership fee is £10 for which you get an introductory disc (or set of tapes) and copies of the magazine, as well as the other benefits described here.

From Windfall July 1981

John Molloy reflects on his love affair with the Apple



Music and the Mac

Back in March or maybe April, Colin Holgate asked me if I could do a talk about the Mac and music at Park Street for Apple 2000. Colin was booked to be talk about something else but it would be much better if his chat was delayed by a month. It wasn't that Colin wasn't prepared - he can provide an excellent and amusing talk on most things to do with Apple at a moments notice. It's just that Colin wanted to talk about something which wasn't ready. Colin, typically, didn't tell Norah Arnold. Colin likes winding people up, setting up a situation where everybody thinks everything is going to go hideously wrong and then surprises them with something new and unexpected and, of course, better. Well this time, I was that surprise.

I think everybody enjoyed the meeting. They said they did. Colin and Norah did their usual wise-cracking routine (Morcombe and Wise are alive and well and are appearing regularly at the West Herts Apple 2000 meetings...) Any road it was about then that Norah said they were getting together this special edition of the magazine and could I do an article about Apple 2000 and Apple over the years as I was at the early meetings and all that. Foolishly, I said yes. But then it slipped my mind or rather it got put in the pile in my brain marked "I really must finish that tomorrow and get it off".

Guilt creeps in

Back in late August I phoned Peter Kemp, a long standing Apple friend and adventure game writer and player. I met Peter at an early PCW show. I was helping out on the BASUG stand. This character came up to the stand and asked if anyone knew anything about Zork. Well as I had just spent the best part of a year playing it we got together. We exchanged phone numbers and have had a long standing friendship ever since. ANYWAY was just about to finish the call when Peter mentioned that Norah had been in touch and had I finished that article about how Apple 2000 has changed our lives etc. Feelings of guilt drowned out the sound of Pete's voice. I should really do that article. It immediately got put to the top of the "I really must finish that tomorrow and get it off" pile. But...

It's now late September and I've returned home after working away for four days to find a polite letter from Ewen Wannop sitting on the side. "As you were one of those who were involved in the growth of the Apple in the UK, we wondered if you would be willing to write or donate a suitable piece" By golly! O.K. I surrender. By special arrangement tomorrow is here. Cue fanfare. It's article time.

Ten years is a hell of a long time and I'm not sure what is wanted. I could talk about the first Basug meeting I attended. I think it was before I got my first Apple. I was introduced to BASUG by the salesman downstairs at Watford's Radiolux store. The whole of the basement had been converted into one of the first small computer shops I had come across in this country. I had an Ohio Superboard at the time which I had bought in the U.S. but I had had my fill of cassette saving and loading I wanted a real computer. The Europlus, having been recently introduced, was the best machine around at the time and, more importantly, it even had a

reliable disk drive. By January of the following year the salesman's talking had done the trick and I was the proud owner of a Europlus and single 5 1/4" drive. I can't remember what I had for a monitor at the time, but whatever it was I know I didn't have colour at the time. I think Colin Holgate was the first person I met who had colour (or should that be color!).

Those early days

I regularly attended the early Park Street meetings and after a short while helped organise a few - I think my official position at Basug was Coffee Monitor. "Would you like milk? Sugar?". It was about this time that I gained my total addiction to strong black coffee - Well they asked how Apple 2000 changed our lives! I remember a meeting at my parents house in Hemel with John and Norah Arnold and the rest of the local committee I don't remember what was decided but I think I was talked into chatting about music. I was interested in the possibilities of using the computer to make music and owned some musical software. I started with the Alf music system and eventually progressed to the Mountain Hardware music system. I would have probably gone for the Alpha Syntori system as well but I was involved in a band at the time that didn't want to get involved with computers...

I could talk about how Greengate got together. For those of you who never came across the company, Greengate were a British manufacturer of high quality musical instruments based on the Apple II series of computers. Now I come to think of it I met Colin Holgate and David Green on the same day. They didn't know about each other at the time. There was a computer show at the local college and I helped man the BASUG stand. I talked David into joining and said that we should get together, he was playing Wizardry at the time and did I know how to get past... (Why is it that all the people I know in the industry seem to be keen adventure players?) I enjoyed that exhibition, BASUG were showing a fully expanded Apple II Europlus with a colour monitor. When Norah came to take over she explained that the machine belonged to Colin Holgate, a whiz kid at programming the machine and who was also into that Wizardry game. (See I told you so!) I waited around for Colin to turn up but I almost missed him... he's not the tallest man I've ever met. And so it came to pass that Colin and Dave visited the wilds of Boxmoor, Hemel Hempstead.

The band gets computers

The band at that time had been reduced to two men and a tape recorder. My partner in crime at the time was the multi-talented Murray Munro. I think we called the tape machine Eric. The band acquired the name Mainframe - I was gradually talking Murray round to using computers in the band in at least some way! As Murray and I were going to have to play and sing everything, we figured that the band was going to need something which would add another visual dimension. Colin and Dave were briefed and came up with some graphics that could be used in a live concert. I was very glad we were using Apples they were so much more reliable than anything else at the time. Colin would manipulate the images while Murray and I played the music. Once in a while

David attended the gigs too! It would be around this time that Dave said that he had something that Murray and I would be interested in. It was a little board for an Apple II that captured sound. Murray and I were busy recording at the time so we asked Dave to come back later!

Eventually Dave convinced us that he had something that would be worth looking at. So we turned off the tape recorder and plugged Dave's computer into the mixing desk. Dave showed us how to load sounds and we tried out the sounds Dave brought with him on disk. We were very disappointed - it sounded like a cheap cassette recorder. Dave suggested that we try capturing a sound of our own - we did. It was good. Very good. Dave then confessed that the sounds he had on disk were all sampled from... you guessed it... a cheap cassette recorder. Dave refined the software and the hardware as we required it to do more and were had access to a machine that would have cost us tens of thousands of pounds, for just a few thousand - most of which we had already invested. Then some of our tapes got to someone at Melody Maker and then we had people banging on our door asking for one of these devices. Murray's father put up some money and Greengate was born the product was the Greengate DS.3. Knowing how many people out there bought them leads me to think that Apple sold a fair few extra Apple II's just to a market that required a special need... Sound.

EMERGENCY INJUNCTION ON ARTICLE STOP APPLE LEGAL DEPT STOP DUE TO CURRENT COURT CASE YOU CANNOT TALK ABOUT MUSIC ON ANY OF THE APPLE RANGE OF COMPUTERS STOP

It appears that at the moment Apple don't want people to mention the fact that Apple computers are being used to make/play/print music. I think that it is really strange that we have a series of machines here that can be used for anything, literally anything, and some legal eagles decide to sue a company because they think that the machine is going to supplant The Beatles earnings for god sake. Do they think we don't have brains? The initial arguments are going to take about twenty days to be heard, that's before the court case gets under way. I suspect the only winners will be the legal depts.

Apple are a strange company. They have managed to do something which very few other companies have managed. That is to produce products that want to be owned. (We won't talk about the few occasions when they got it wrong). But when they got it right every machine had a "buy me, own me, use me" sticker on it.

What I am doing now

I could talk about how I'm using the machines now. It is nineteen ninety. I am thirty years old. I have two sons, several Apple II's a IIGS and a couple of Macs. But as most of it involves music I can't really do that. I might get away with saying that "Damon Jones, my new partner in crime, and myself use certain fruit associated processing machines to capture real-time rhythmic and melodic performances in the comfort of our own homes and then enter very expensive rooms to store that information on very long strips of rust coated plastic" but that's about all I dare say in the current climate.

The Mac Plus is sitting in my three year old sons room - It was the only way I could stop him from erasing the hard disk on my machine - something which he did once. I must admit he is luckily he's still alive. If wasn't for my wife's quick thinking and a tube of Superglue then it would have all been over by now. (You can let me go now love). I was amazed how quickly he took to the "puter". It says something about a computer that can be operated by a three year old - and he's been using it for about a year. So what does John have to say about the Macintosh?

JGPM (me): John, what do think about your computer? **JGMM (for it is he):** Fine. **JGPM:** John, what do like about your computer? **JGMM:** Don't know. **JGPM:** Do you like the games? **JGMM:** No. I like that game... like that shooting game...and that game...that game that goes "DANG". It's got lots of things in it...pew pew and

then fall down. Then plong and DANG DANG then all fall down. **JGPM:** Are you good at it? **JGMM:** Yes. It goes DANG DANG and then that's the end. **JGPM:** Do you like Kids Time? **JGMM:** Yes. **JGPM:** Yes? **JGMM:** Yep **JGPM:** Do you like match it? **JGMM:** Yep. I like woggle woggle. (Danny, my wife, instantly translates "woggle woggle" as Crystal Quest. - Does Crystal Quest really go woggle woggle?) So there you have it. An exclusive and revealing(?) interview with one of the younger generation of Mac users.

My electricity bill soars

I still get endless use out of the machines - I wonder if Apple have shares in the power companies in Britain. One or more of the machines seem to be on at any one time in Molloy Mansions. Oh, by the way I've just thought of something that you might find amusing. As well as Kids Time, which is an excellent way of introducing young children to computers, we also own Number Maze, which is a simple but effective way of introducing children to the concepts of numbers and counting. It starts very simply, by showing things on the screen which are then counted. If answered correctly then you progress through the maze to the castle. It later progresses to word based questions which help check the children's reading ability too. The feature is designed for questions such as: "This morning Susan gave two sweets to each of her five friends. How many sweets did she give away altogether?"

Some elementary examples

However, if you are like me and are interested in the surreal, it's worth using the customizing features to set up a level which gives you the questions in a written format but with enormous numbers. This produces some wonderfully unexpected results: "Before school Matthew gave two hundred and twelve crabs to each of his forty one friends. How many crabs did he give away?" The answer is eight thousand, seven hundred and seventy four crabs - but that isn't the first question that springs to mind is it? How about - How did he get them to school? Did his friends pay C.O.D? Where in the school did they store them? How long could the entire school be kept going on crab meat?

Another example is "Last week Eric gave Robby one thousand, nine hundred and fifty five forks. This morning Robby lost Two hundred and fifty four forks at a picnic. How many forks are left?" Well the fact that Robby has got one thousand, seven hundred and one forks left shouldn't leave him too upset should it. I reckon that he could give them back to Robby without Robby really noticing the loss. I mean at a glance do you think you would spot the sort fall? I mean once you get about a hundred forks in one place counting them takes a long time. I Apart from which if you have Seventeen hundred and one forks it means you could eat three meals a day with a different fork for well over a year and a half. Do you think Eric would give a monkeys after that period of time. Admittedly the other forks would keep him going for another three months - almost. But if he hadn't done the washing up by then I think the neighbours would start to complain.

One last one example is: "After school Christopher and his teacher travelled for eight hundred and forty hours at ten kilometres per hour. How many Kilometres did he travel?" The eight thousand and four hundred kilometres travelled appears to pale into insignificance once you start to answer those niggling little questions at the back of your mind. You know - why weren't they missed? What did they do for thirty five days. Was it some kind of surreal performance art demonstration? How did they ensure such a relentlessly constant speed? Were they sponsored - and if not why not? Look I've got to go - I must just get past this final maze...

To Finish off I wonder what my son will be doing in ten years time? Probably writing a sequel to this article on that note-pad sized Mac, you know the one with voice entry and the customizable navigator. Have you seen it yet? it's the one with FX compatibility. You must remember the FX it was the last machine that came out just before that batch of new machines for the nineties, the Mac Classic, the SE and the... what was it called?... I don't remember now but it looked really good - really different from the machines we were used to in the eighties...

The Apple Prunings



Fascinating facts from the Apple archives

August 6th 1950	Birth of Steve Wozniak.
February 24th 1955	Steve Job's birthday.
January 1st 1975	Wozniak and Kamradt forms a subsidiary of Call Computer by the name of Computer Converser. Woz begins to design a terminal that would converse with another computer.
January 1st 1976	Jobs starts to badger Woz about possibility of making and selling some printed circuit board to others wanting to build their own computers In 1974, possibly in the summer of '76, Woz and Steve began assembling the Apple I in Jobs' parent's garage in Los Altos. Before that they were assembling the computer in Jobs' sister's bedroom. Steve Jobs and Steve Wozniak collaborate on a small computing board for personal use. Takes 6 months to design the prototype, 40 hours to build it, and soon they had an order of 50 personal computers.
March 10th 1976	Design of Apple I completed. It did not have sound or graphics capabilities.
April 11th 1976	Apple I design released to production.
May 1st 1976	Jobs and Woz deliver the first 60 Apple I computers to a few computer stores. At the time, Woz was working for Hewlett-Packard and Jobs was a part-time physics student at Stanford.
July 1st 1976	Apple I introductory price - \$666.66. Between 210 and 220 Apple I's were produced. The Apple I did not have sound or graphics capabilities as did the Apple II later.
October 1st 1976	Regis McKenna introduced Woz and Steve to Don Valentine who in turn introduces them to Mike Markkula. Mike puts up the venture capital to get the Apple II off the ground. Soon after Apple was incorporated.
January 1st 1977	Apple logo designed by Rob Janov, a Regis McKenna art director. Apple moves into a Cupertino building to accommodate an anticipated expansion in number of employees from 30 to 125. Apple sold approximately 570 Apple IIs in fiscal year 1977 ending September 30, 1977
January 3rd 1977	Apple computer officially formed (incorporated).
March 1st 1977	Steve Jobs becomes director of Apple Computer. Mike Markkula becomes director of Apple Computer.
April 20th 1977	Apple II introduced at the first ever West Coast Computer Faire. The 4K Apple II sold for \$1298 and the 48K for \$2638. Included was a free vinyl carrying case. The Apples were not sold off the floor, rather orders were taken. The 4 prototypes had been bolted together just the night before. The booth was front row, centre. At the booth were : Bill Fernandez, Mike Markkula, Mike Scott, Dan Kokie, Steve Jobs, Steve Wozniak and Chris Espinoza.
April 30th 1977	Advertisement in the Homebrew newsletter promised deliver of the Apple no later than April 30, 1977.
May 1st 1977	First Apple II personal computer introduced, the first fully assembled, programmable personal computer commercially sold. Since then there have been 15 revisions to the basic design. Steve Jobs becomes VP of Apple Computer.
May 20th 1977	1st Apple II board shipped.
June 5th 1977	Apple Computer announced today the Apple II, a low cost, high performance "personal" computer system. Fully assembled and pretested, Apple II can be connected to any standard television set. All Apple II programs can be stored and retrieved from standard audio recorder/players.

Retail Price List

Effective 1st July 1981

Apple system packages for every applicant

The Apple II is a completely assembled and tested computer system. It includes a type-writer style keyboard with high-efficiency switching power supply, ROM-resident Applesoft extended basic interpreter, auto-start ROM, disassembler, two hand controllers (paddles), AC power cord, reference manuals and Applesoft Tutorial Manual.

Typical Business Starter Systems

Product Code Number	Description	Retail Price £
A2S1048P	Apple 48K Video Output	807.00
A2M0044	Disk Drive with Controller	383.00
A2M0003	Disk Drive without Controller	299.00
	Video Monitor 9" B & W	127.00
	Cable for Video Monitor	9.00
	Paper Tiger Printer*	598.00
A2B0002	Parallel Printer Interface Card	104.00
E2D001/3.3	Visicalc	150.00
E2D002	Desktop Plan	75.00
A2D0026	Apple Writer (Word Processing)	42.00
A2D0033	Apple Plot	37.00

*Alternative—the Centronics 737 Printer

TOTAL 2,631.00

Typical Educational/Scientific Starter Systems

A2S1048P	Apple 48K Video Output	807.00
A2M0044	Disk Drive with Controller	383.00
A2M0036	Silentype Printer	349.00
	12" Video Monitor B & W	189.00
	Cable for Video Monitor	9.00
A2B0017	Colour Card	113.00
D2M0014	TV Modulator for use with Colour Card	14.00
A2B0010	Integer Card	116.00

TOTAL 1,980.00

APPLE HARDWARE

A2S1048P	Apple 48K Video Output	807.00
A2M0016	16K of RAM Add-On	56.00
A2M0044	Disk Drive with Controller (16 sec)	383.00
A2M0003	Disk Drive without Controller	299.00

LANGUAGES

A2B0006	Pascal Language System	299.00
A2B0009	Applesoft Firmware Card	116.00
A2B0010	Integer Card	116.00
A2B0044	Language Card	105.00
A2D0028	Apple Pilot	76.00
A2D0032	Apple Fortran Package	120.00

WARRANTY

A2C0003	Apple Extended Warranty Plan	105.00
---------	------------------------------	--------

NOTE: APPLE COMES WITH A ONE YEAR WARRANTY AS STANDARD

Prices exclusive of carriage and VAT.

Prices are correct at time of going to print and are according to our Standard Terms and Conditions. E & O.E.

SOLE UK DISTRIBUTOR

microsense computers limited



apple computer

® Apple is a trade mark of Apple Computer Inc. Cupertino C.A. USA

ACCESSORIES

Product Code Number	Description	Retail Price £
A2M0019	Programmers Aid 1	27.00
A2M0027	Auto Start ROM Pack	38.00
A2M0029	Graphics Tablet	462.00
APPLETEL	Appletel System	595.00
D2M0014	Apple Black & White Modulator	14.00

INTERFACE CARDS

A2B0001	Prototype/Hobby Card	15.00
A2B0002	Parallel Printer Interface Card	104.00
A2B0003	Communications Card	130.00
A2B0006	High Speed Serial Interface Card	113.00
A2B0007	Centronics Card	130.00
6S-4104	Controller Card	106.00
A2B0017	Eurocolour Card	113.00
A2B0015	IEEE Interface	239.00

SOFTWARE/DISKETTES

Personal Software...

E2D001/3.3	Visicalc 3.3 Version Disk & Book Complete	150.00
E2D002	Apple Desk Top Plan	75.00
A2D0003	CCA Data Management System	75.00
M/MOD	Micro Modeller	425.00

Other Software

A2D0005	Contributed Software Vols 3-5	60.00
A2D0009	Microchess 2.0 Chess Disc	15.00
A2T0013	Microchess 2.0 Chess Cassette	15.00
A2D0010	Disk Utility Pack	15.00
A2D0012	Apple Business Controller Program	340.00
A2D0013	Apple Post Program	27.00
A2D0014	The Shell Games	14.00
A2D0015	Elementary My Dear Apple	16.00
A2D0018	Apple Bowling Diskette	9.00
A2D0023	3.3 Disk Operating System	39.00
A2D0029	DOS 3.3 Tool Kit	39.00
A2D0026	Apple Word Processing Program	42.00
A2D0031	Stella Invader	13.00
A2D0033	Apple Plot	37.00
A2D0034	Apple Adventure	21.00
E2D0002	Checker King Diskette	17.50
E2D0003	Gammon Gambler	17.50
E2D013	Bridge Partner	17.50
M1001	Milliken Maths Package	200.00
MBA-S-EA/R	Estate Agents (Res Properties)	500.00
MBA-S-ML	Microbase Mailing List	70.00
MBA-S-SC	Microbase Stock Control	100.00

PRINTERS AND ACCESSORIES

A2M0036	Silentype 80-col Graphics Printer	349.00
A2C0001	10 Rolls Thermal Paper for A2M0036	28.00

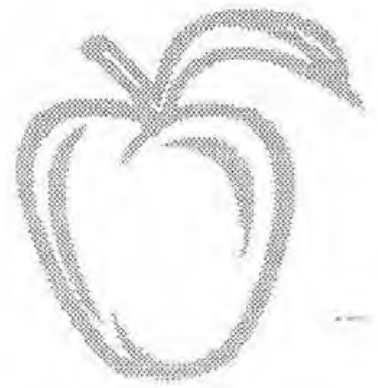
DOCUMENTATION/MANUALS

A2L0001A	Apple II Reference Manual	11.00
A2L0002	6502 Hardware Manual	9.00
A2L0003	6502 Software Manual	9.00
A2L0005	Apple II Basic Program Manual	6.00
A2L0006	Applesoft II Reference Manual	6.00
A2L0012	DOS 3.2 Manual	6.00
A2L0018	Apple II Basic Tutorial Manual	6.00
A2L0019	Pascal Reference Manual	8.50
A2L0022	Autostart ROM Manual	4.50
A2L0026	Fortran Reference Manual	12.00
A2L0027	Pascal Language Manual	9.00
A2L0028	Pascal Operating Manual	11.50
A2L0033	Graphics Tablet Manual	5.00
A2L0034	Silentype Manual	3.00
A2L0036	DOS 3.3 Manual	5.00
A2L0041	Pilot Language Reference Manual	9.00
A2L0042	Pilot Editors Manual	7.00

MISCELLANEOUS ACCESSORIES

A2D0000	(10) Blank Apple Diskettes	32.40
A2M0009	Vinyl Carrying Case	18.00
APPLETIES	Apple Logo Ties (each)	6.00

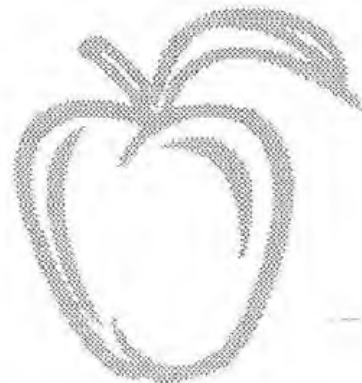
The Apple Prunings ...



June 5th 1977	Complete Apple II system, including 2 game paddles and a demonstration cassette is priced at \$1298 or a board only without case, keyboard, power supply or accessories for \$798.
July 6th 1977	1st Apple II boards shipped to Europe from Canada
June 10th 1977	1st Apple II system shipped.
September 5th 1977	1st Apple II system shipped to Europe from Canada
September 20th 1977	1st Apple International Show - Paris
September 30th 1977	Apple sells app. 570 Apple II computers by this date.
December 16th 1977	Apple announces that in the first part of January 1978, Apple Computer Inc. will occupy their new international headquarters at 10260 Bandley Drive in Cupertino, California.
January 1st 1978	Apple spent app. \$600,000 in research and development in fiscal 1978 ending Sept 30. Apple spent \$573,000 for advertising for fiscal year 1978 ending Sept 30. Apple sold approximately 7600 Apple IIs in fiscal year 1978 ending Sept 30, 1978. Disk Drive II announced at the Consumer Electronics Show.
January 18th 1978	First European sale of an Apple Computer.
March 2nd 1978	Apple announces the Intelligent Printer Interface Card allowing interface between the Apple and any printer. Apple announces the Intelligent Communications Interface card which allow low cost telephone communications.
June 1st 1978	Apple introduces Disk II providing file memory capacity of 143K bytes of data. Apple's disk drive line starts with only two employees producing up to thirty disk drives a day. By April, 1980 the department had over 30 employees putting out several hundred disk drives per day.
June 8th 1978	Apple announces the availability of an easy to read, well written and illustrated, and entertaining manual for its Apple II entitled APPLE II BASIC PROGRAMMING MANUAL.
June 10th 1978	Apple announces Disk II, the easiest to use, lowest priced, and the fastest minifloppy disk drive yet offered by any personal computer manufacturer. 1st Apple II music program - Andre Sousan. Apple reduces it 16K byte memory 40% today for its Apple II. Previously priced at \$500, a 16K memory increment now sells for \$300. The 16K Apple II which sold for \$1445, now sells for \$1195.
July 1st 1978	Apple's Service Department is formed.
September 30th 1978	Apple sells app. 7600 Apple II computers during the fiscal year ending on the above date.
January 1st 1979	Woz receives the Grace Murray Hopper Award from the Association for Computing Machinery for his work in personal computing. Foreign sales of Apple's products were app. 24% in fiscal year 1979. Apple sold approximately 35,100 Apple IIs in fiscal year 1979 ending Sept 30, 1979. Apple Computer spends approximately 3,601,000 fiscal year 1979 for research and development.
February 1st 1979	Mike Scott says "No more typewriters at Apple"
February 27th 1979	Apple announces the Programmer's Aid #1, first of a series of software packages designed to improve and amplify user programming techniques.

March 1st 1979	Ground breaking ceremonies held for a new Apple building under construction in Cupertino.
April 10th 1979	At this date Apple employed approximately 250 people working out of 4 buildings occupying approximately 100,000 square feet.
May 22nd 1979	Apple announces the "Disk Utility Pack," a collection of system software routines for disk-based Apple II computers. Apple announces the reduction in price of its 32K and 48K Apple II computer systems from \$1495 for the 32K, and from \$1795 for the 48K Apple II.
July 10th 1979	Apple announces the formation of the Apple Education Foundation.
July 26th 1979	Shipped first 500 Apple II Pascal systems.
August 1st 1979	Steve Jobs becomes Vice Chairman of the Board of Apple Computer and serves in this position until March 19, 1981. Apple's first comprehensive manual sets a standard that Apple's competitors were forced to match. Jef Raskin managed the production of this manual.
August 3rd 1979	Apple Pascal released.
August 20th 1979	Apple announces the lowest cost extended warranty for personal and small business computers.
August 31st 1979	Apple announces the graphics tablet.
September 1st 1979	Macintosh project formally begins, although informal work was being done as early as late 1978. The code name "Macintosh" was given to the project because the project leader's (Jef Raskin) favourite apples are Macintosh apples. The misspelling of the word "Macintosh" was used as early as September 1979
September 11th 1979	Code name "Annie" project is officially changed to the "Macintosh" project. This was done so as to avoid using only female names for projects. It was decided that varieties of apples be used for each major project.
September 14th 1979	Beginning lease date of Bandley 11, 10455 Bandley Drive, Cupertino.
September 30th 1979	Apple sells app. 35,100 Apple II computers during the fiscal year ending on the above date.
October 19th 1979	Apples's first accounting software, The Controller, shipped.
December 1st 1979	Apple introduces the One-Year Extended Warranty covering all Apple-manufactured hardware and system software including additional equipment purchased during the one-year period, free software updates, guaranteed warranty renewals in one-year increments.
January 1st 1980	Foreign sales of Apple's products were app. 25% of net sales in fiscal year 1980 Sales to Eurapple in fiscal 1980 accounted for app. 17% of the Apple's net sales for fiscal 1980. Apple sold approximately 78,100 Apple IIs in fiscal year 1981 ending Sept 30, 1980. Apple Computer spends approximately 7,282,000 in fiscal year 1980 for research and development. Possibly in March the Training Department was started. Joe Shepela hired to head this department. "Meet Your Apple", Apple Writer 1.0, and VisiCalc were the first training modules.
January 12th 1980	As of the above date, the Macintosh project team was to consist of just 4 people: Woz working part-time, Burrell Smith doing detailed electronic design and breadboarding, software designer-programmer to be hired, and Jef Raskin. This team of 4 was to carry the project through the major portion of software/hardware/execution stages including design & production of prototypes of the electronics, first drafts of language and hardware manuals & most of the software.
March 1st 1980	Prior to the above date Apple, distributed its products primarily through 5 independent distributors which purchased the products for resale to the retail outlets. In February 1980, Apple chose to terminate these distribution arrangements and distribute its products from newly established Company-owned regional support centres directly to retail stores.
March 19th 1980	Apple Education Foundation announces today the award of over \$120,000 worth of microcomputer equipment for the development of medical and general education materials using microcomputers.
April 1st 1980	Apple Computer announces Apple Fortran, a programming language that allows technical professionals and educators to develop and run Fortran programs on their Apple II and II+ computers.
May 1st 1980	Apple announces the Apple III. Apple and users and OEM's can go beyond the standard programming capabilities of the Apple II to create and edit their own source code in 6502 assembly language, Apple Computer announces today. This capability is provided by the integrated assembler and source editor which is part of Apple's new Disk Operating System (DOS) Toolkit - the first such software development tool designed specifically for Applesoft programming.

The Apple Prunings ...



May 19th 1980

Apple introduces the Apple III, a fully integrated computer system with built-in disk drive, up to 128K of memory, colour and b & w video and the ability to accommodate a wide range of videos. Apple III prices range from \$4340 to \$7800.

Apple announces "Apple Plot" a new software package that enables users of Apple computers to create, revise and print detailed charts and graphics quickly and easily.

Apple announces the newest disk operating system for Apple II personal computers upgrades online storage capacity by more than 20%. It boosts the capacity of Disk II drives from 116 kilobytes to over 142 kilobytes. The new disk operating system is called DOS 3.3.

Apple announces Apple Pilot, an easily used, non-technical but advanced computer programming language system, particularly suited to the needs of educators developing lessons on personal computers.

May 20th 1980

Introduction of the Apple III at the National Computer Conference (NCC) in Anaheim, California.

June 2nd 1980

Apple announces that the Apple III was previewed in Europe this week will be available starting in October through Apple dealers in 12 West European countries, as well as in 12 other countries. The Apple II will be supported by the existing Apple distribution outlets and by the Apple support centre which the company is planning to open in Amsterdam.

Apple Computer announces it will begin manufacturing its personal computers and open a major distribution and support centre in Europe by September 1. Apple plans to occupy a 43,000 square foot manufacturing plant in Cork, Ireland to begin assembling Apple II personal computers. At the same time, a distribution and support facility will begin operations in Zeist, The Netherlands.

June 11th 1980

Apple announces a multinational expansion program that includes a new manufacturing plant in Texas and one in Ireland, plus six new regional support centres.

June 14th 1980

A racing car sponsored by Apple Computer makes its European debut in the 24-hour Le Mans, France competition.

July 1st 1980

As of the above date and probably earlier, the features of the Macintosh were to include: portable, compact, one-piece design; built-in monitor, typewriter-style keyboard, mass storage device, and speaker; 64K memory; microphone input; RS-232 port; clock; modem; diagnostic and expansion port; built-in word processing, calculation, scheduling, communications, model changes not required for international use; easy learning; and \$1500 complete.

As of above date, there was Macintosh processor, display and keyboard running in the Macintosh lab. The number of Apple employees rose to about 800 people who occupy 560,000 square feet of floor space in the U.S. and Europe.

July 14th 1980

Apple Computer announces it has filed suit charging that copyright infringement has been filed against IT&T Consumer Products (U.K.) Ltd., a part of the International Telegraph and Telegram Corporation Group. Apple charges that IT&T has copied the analog board, the controller board, system firmware and software, and the user's manual of the Apple II Floppy Disk Subsystem.

July 15th 1980

The Engineering Top Ten projects names as the 10 most critical projects for Apple Computer, which will receive increased visibility and attention. They are: A3 first release SFTW, A3 Rev2 PC BD, RFI A2, A3 Pascal, A3 Word Processor, A3 Silent type, Lisa 1st Rel Hardware, Lisa 1st Rel SFTW, All IEEE 488 Card, A3 Paralled Card.

July 30th 1980

Apple II Fortran shipped.

August 21st 1980

Apple buys Eurapple (European Sales Organisation).

September 1st 1980

Prior to the above date, foreign sales were made an independent dealer, Eurapple, located in the U.S. Foreign sales were made by Eurapple to other independent distributors in Europe and to lesser extent in the Far East, Middle East, Australia, Philippines and SA. In August of 1980, apple acquired Eurapple's distribution rights.





UTILITIES

AOPT: Applesoft Program Optimizer is a 2.2k machine language utility that will substantially reduce the size of the program without affecting the operation of the program. **£19.95**

APLUS: Applesoft-Plus Structured Basic is a 4K machine language utility that adds structured programming commands to Applesoft basic. For example 'DO CURVE-FIT'. **£19.95**

CRAE: A co-resident Applesoft Editor. Global changes and finds. Quote (copy) a range of lines. Append, Renummer, Modify. 15 commands in all. **£14.95**

CRAE & MCAT: Editor (as above) & MCAT which creates a sorted Master Catalog. **£19.95**

APPLE PROTECTOR III: Protect your programs against pirating. The protected discs can not be copied by presently available commercial copy programs. **£60.00**

SDC III: Super Disc Copy III is a new driven program that allows manipulation of all types of files under DOS 3.1, 3.2, and 3.3 COPY single files, DOS, entire disk, UNDELETE, FIX filesizes etc. Allow files to be transferred back to DOS 3.2. **£24.95**

DISC RECOVERY: This utility will examine all the sectors on the disc, BAD BLOCK SCAN option. And the REDO VTOC option may correct "messed-up" discs. Repair your disc. **£24.95**

DOS PLUS: This utility adds 8 new commands to APPLE DOS. Three are built-in and 5 are user-definable. Now you can 'flip' between DOS 3.3 and DOS 3.2 while a program is running!! **£19.95**

Add 15% VAT. Postage and Packing Free

Write or phone for full catalogue of available software.
Dealer enquiries welcome.

Contact:

S.B.D. SOFTWARE

BIRMINGHAM COMPUTER CENTRE

SPECIAL OFFER

Apple II plus fitted VHF Modulator
complete with disk drive and controller
£1,050 + VAT

SPECIAL OFFER

Paper Tiger 460 with Graphics **£715 +**
Paper Tiger 560 with Graphics **£895 VAT**

SPECIAL OFFER

Richo RP1600 Daisywheel Printer fitted
centronics interface - double daisywheel
fantastic value **£1,350 + VAT**

Full range of Apple Hardware, Monitors, Disks, Tapes,
Books, Paper, Labels etc.

SALES - SERVICE - SATISFACTION

CAMDEN ELECTRONICS LTD
MICROCOMPUTER SYSTEMS

the software house



Visicalc	75	Airflight Smltr	18	Computer Ambush	22
Visicalc II	115	MSOFT/Adventure	15	Computer Bismarck	22
Visidex	95	Zork	20	Computer Conflict	22
Visiplot	85	Wizard & Princess	17.50	Shattered Alliance	22
Visiplot	100	Space Eggs	14.50	Torpedo Fire	25
Visitrend/Plot	130	Gamma Goblins	14.50	Warp Factor	25
CCA Database	45	Orbitron	14.50	Cartels & Cutthroats	20
Tabs Modules	99	Gorgon	14.50	Computer Napoleonics	25
Super Editor	24	Ez Draw3.3	23	Computer Air Combat	25
Symdis	21	Both Barrels	11	Air Traffic CTRLR	11
Locksmith	45	Phantoms Five	14.50	Super Robots	10
DB Master	125	Cyberstrike	19	Apple Collision	10
Mail List	60	Alien Rain	14.50	Super Invaders	12
DOS Toolkit	39	Alien Typhoon	14.50	Star Cruiser	12
3.3 Upgrade	39	Snoggle	12.40	Odyssey	12
Super Apple Basic	23	S/Adams ADVS 0/10	8	Appleworld	28
Assbly Dev System	22	Interlude (Tape)	9	Tewalas Last Redoubt	15
Verbatim Disks (10)	18	Sargon II	23	Planetoids	12
The Data Factory	90	Othello Challenger	10	Micro Painter	22

Coming soon - ***

Vaults of Cymarron
Star Venture -
Darkstar

(Hires (Graphics Adventure)
Hires Graphic Startrek

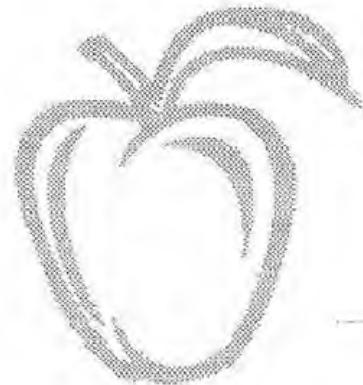
To order just photo copy this page
Please add 15% VAT & 80p for P&P
Mail Order Address
Shop Address

& circle the programs you need

name
address

Shop Hours (Mon/Sat) 9.30 - 5.30

The Apple Prunings ...



- September 1st 1980** Demonstration Apple IIIs sent to dealers.
Mike Spindler joins Apple as European Marketing Manager and was promoted to VP and General Manager, Europe in 1984
Three and a half years after the introduction the Apple II's introduction 130,000 units had been sold and revenues had risen from \$7.8 million for the fiscal year that ended on September 30, 1978, to \$117.9 million, and profits had risen from \$793,497 to \$11.7 million
- September 4th 1980** Apple Education Foundation announces that more than \$150,000 worth of microcomputer-based systems have been awarded to 25 recipients. This is the third set of awards made by the foundation
- September 26th 1980** Apple sells app. 78,100 Apple II computers during the fiscal year ending on the above date.
Apple employees as of above date approximately 1015 full time employees, including 198 in marketing and sales; 152 in research, product development and related engineering; 558 in manufacturing; and 107 in general management and administration.
- October 1st 1980** Official opening of the company store at 1335 Bordeaux Drive, Sunnyvale.
- October 20th 1980** Cork, Ireland Plant opens.
- October 31st 1980** Apple sells app. 131,000 Apple II computers by this date.
- November 1st 1980** Apple commences limited deliveries of the Apple III to retail customers in late November
Apple announces that the Apple II has been chose as the network access machine for EDUNET, an international computer network for higher education and research
- November 3rd 1980** 1st customer shipment of special delivery software.
- November 9th 1980** British Apple Systems User Group founded in the UK
- November 14th 1980** Apple's new delicatessen opens at northeast corner of Bandlely II. Tony Dyke, owner of the Round Onion restaurant, will be manager and chef extraordinaire.
- November 17th 1980** Apple Computer Inc. announces that the company and ITT Consumer Products Division has settled a suit brought against it by Apple Computer in England.
- December 2nd 1980** Apple announces that the creativity of independent software developers is being encourage through a new software selection and distribution program that will be offered through the first Special Delivery Software Catalog. Programs will be available on cassette.
- December 12th 1980** Apple goes public selling 4.6m shares at a price of 22.
- December 30th 1980** Apple announces a computer literacy program, named Apple Seed, that will provide qualifying elementary and high schools with computer course materials.
- January 1st 1981** Founding of the Nepalese Apple Users Group, Manaste Apple.
The deadline established by Mike Scott for eliminating typewriters at Apple Computer
Apple begins the loan-to-own program by which an Apple employee can borrow an Apple II+ and after one year is allowed to keep the system if he/she can show that they can use Apple Writer an VisiCalc.
In 1981 Apple opened European distribution centres in Zeist, The Netherlands and Munich, Germany.
Introduction of Microcourier, which gives the Apple II electronic mail capability.
Introduction of IEEE-488 card for interfacing measurement and control equipment.
Introduction of Monitor III for the Apple III system.
Nearly 180,000 Apple II systems shipped in 1981, more than twice as many as in 1980, increasing the installed based to well over 300,000.
Foreign sales of Apple's products were app. 29% of net sales for the first 6 months of 1981.

January 1st 1981	Apple sold 75,000 Apple IIs in the first six months of fiscal year 1981 ending March 27, 1981. Apple Computer spends approximately 20,956,000 fiscal year 1981 for research and development. Over 40 software packages introduced by Apple in 1981 including a number of Apple III programs: Business BASIC, Business Graphics, Mail List Manager, Apple Writer III, Access III and Pascal.
January 15th 1981	Apple announces that nearly \$150,000 worth of microcomputer systems have been awarded to 26 educational groups by the Foundation for the Advancement of Computer-aided Education. This is the fourth set of awards by the foundation since October 1979, and raises to app. \$500,000 the value of grants given to educational institutions and individuals.
January 22nd 1981	Apple announces record sales and net income for the first quarter of fiscal 1981. This is the first financial report since the company's initial public offering of common stock. Sales for the quarter were \$67.6 million, a 246% increase over the \$19.5 million reported in the same quarter a year ago. Net income was \$7.4 million, 180% higher than the \$2.6 million in the comparable 1980 period. 1st 100,000 units packaged in one month - Sunnyvale, CA.
February 9th 1981	Apple announces that it has concluded an agreement to acquire Microsense Computer Ltd. of London. Microsense has been the authorised distributor for Apple in the UK since July 1979.
February 10th 1981	Apple announces that it will no longer offer a special built-in clock/calendar circuit as part of the Apple III. As a result, the price of the computer has dropped \$50.
February 23rd 1981	Paris, France European headquarters opens. Slough, England sales office opens.
March 1st 1981	Apple resumes shipments of the Apple III after correcting reliability problems.
March 19th 1981	Apple announces a restructuring of its top management with A.C. Markkula, Jr. named as president and chief executive officer. Succeeding Markkula as chairman of the board is Steven Jobs. Mike Scott, who has served as president and CEO since May 1977 and as director since January 1978, will succeed Jobs as vice chairman of the board.
March 27th 1981	As of the above date Apple had app. 1550 employees, including app. 230 in marketing and sales; 250 in research, product development and related engineering; 950 in manufacturing; and 100 in general management and administration. 1st million dollar shipping day.
April 30th 1981	As of the above date, Apple has sold more than 4000 Apple IIIs. As the above date Apple has sold more than 200,000 Apple IIs.
May 4th 1981	Apple announces AppleGraphics II, the most versatile graphics programming tool available for personal computer. Apple announces that the Apple Language Card has been made available for sale as a separate item. The card allows Apple II and II+ computers to run turn-key programs written in any Apple-supported language including Pascal, Fortran and Pilot.
June 4th 1981	1st Apple III users group meets - Charlottesville, VA.
July 1st 1981	Apple to open a new manufacturing and testing facility in Singapore. Plant will initially produce logic and encoder boards for Apple computers.
July 13th 1981	Cork Ireland starts manufacturing.
August 13th 1981	Apple Computer and Microcom introduces two communication programs designed for the business and professional personal computer market. Micro-Courier and Micro-Telegram turn the Apple into a communications tool to send information from one Apple to another or to access Western Union communication lines.
September 11th 1981	Apple III Business BASIC software released. Apple III System Demo software released.
September 21st 1981	Corporate Engineering Library opens for business. Monica Ertel heads the new library which is located in Bantley II.
September 23rd 1981	Apple Values announced. Apple Values are the "qualities, customs, standards and principles that the company as a whole regards as desirable. They are the basis for what we do and how we do it. Taken together, they identify us as a unique company."
October 1st 1981	Release of the Apple III to Intercontinental markets.
October 21st 1981	Apple acquires Microsense Computers Limited in London for approximately \$3.5 million. Apple Computer (UK) Limited, employees the 85 staff from Microsense and continues to distribute Apple products. Michael Brewer, previously Chairman and Director of Microsense, named Managing Director of Apple Computer (UK) Limited.

The Apple Prunings ...



October 26th 1981	Apple introduces the Family System for home use. The system includes an Apple II+ computer, disk drive with controller, RF modulator, tutorial, software, manuals, and software directory. The system sells for \$2495.
November 1st 1981	Apple informs retailers that it would no longer allow its products to be sold to consumers over the telephone or through the mails. As a result, in December 1981, six retailers filed suit against Apple. Apple dealers service centres break 1000 worldwide including centres in Netherlands Antilles, Kuwait, Qafar and Surinam.
November 3rd 1981	Apple has completed the acquisition of Microsense Computer, Ltd. of London for approx. \$3.5 million. Microsense has been the authorised distributor of Apple computers in the UK since June, 1979. The new company, Apple Computer UK, will distribute Apple products to a network of 500 dealers in the UK.
November 5th 1981	Markkula says that all authorised Apple dealers will be required to sign contract modifications in which they agree not to engage in mail order sales of Apple products.
November 9th 1981	Apple introduces a new mass-storage system for the Apple III called ProFile, a 5 megabyte hard disk with the capacity of 35 floppy disks.
December 17th 1981	Apple's Peripherals Division extends a special offer to all Apple Employees of a Centronics 737 Dot Matrix Printer at a special price of \$349.
January 1st 1982	By the end of 1982, over 750,000 Apple systems had been sold worldwide.
February 1st 1982	Apple officially changes its corporate address to 20525 Mariani Avenue in Cupertino.
March 1st 1982	The first 220-volt Apple IIIs for the international market shipped from Cork, Ireland.
March 12th 1982	The first Apple Payroll processed by ADP (Automatic Data Processing). Prior to this our payroll was processed by the Bank of America. Apple announces that Apple Logo is now available.
March 16th 1982	Apple announces that it has commenced legal action against Asian imitators of its Apple II.
March 19th 1982	Mike Markkula announces to the Executive Staff that Apple: 1) will proceed toward establishing and "Automated Printed Circuit Board Facility," 2) will build a small quantity of Super II's [Apple IIe's] to determine assembly and test procedures to use in manufacturing, 3) begin production of the Super II's in Dallas and 4) the PC board manufacturing will be subcontracted until it will be determined when to build an automated factory. [The Fremont Plant]
April 1st 1982	The Keyboard Company in Garden Grove, California becomes a part of Apple Computer Inc.
May 12th 1982	Apple announces a suit filed against Franklin Computer Corp. of New Jersey for patent infringement, copyright infringement, unfair competition and misappropriation.
June 7th 1982	Apple announces the its Accessory Products Division will offer two new printers, the Apple dot matrix and the Apple letter quality printers. Apple announces Apple SoftCard III System which allows the running of CP/M-based application programs on the Apple III. Apple announces SuperPILOT, a versatile extension of the Apple PILOT software language. Apple announces Apple III COBOL.
June 15th 1982	First Lisa sneak preview in Europe - Paris HDQ with John Couch.
August 19th 1982	Apple announces the U.S. Customs Service has begun detaining and seizing imitations of the Apple II. All imitations will be destroyed.

THE LAST ONE™

At last!

Well, we have to admit that it has taken us a while longer than we thought to perfect THE LAST ONE but now that it's complete, it's even better than we originally planned. All sorts of extra features have been incorporated and the finished product, complete with comprehensive and easy to follow documentation is now, at last, finished.

What this means is that anyone who has a clear idea of what they want a program to do, can produce bug-free programs in a mere fraction of the time that it used to take. To use THE LAST ONE, you do not have to understand BASIC. You do not have to spend hours, days and weeks coding your requirements. You do not have to spend hundreds and thousands on buying commercial software which, by definition, can only perform the tasks for which it has been written.

Buying a copy of THE LAST ONE means that you can easily produce your own software, designed to answer your needs, and to be updated as often as you require, at no extra cost.

THE LAST ONE is menu-driven. That is, you the user are shown a list of options on the screen, written in plain English, and from those options, you select and build a FLOWCHART. The heart of building a flowchart is something we call the FLOWCHART CREATION MENU (surprise, surprise).

When this appears, the user selects the options required and in this way the flowchart is created. Selecting some options will lead to the user being shown sub-menus which ask for more detailed or specific information and so, in this way, you continue until you are satisfied that your flowchart answers your requirements.

At this point, by selecting the 'CODE PROGRAM' option, THE LAST ONE will go through your flowchart line by line, asking the user for such information as screen layout design, branch destinations and so on until THE LAST ONE has a complete picture of your precise requirements.

Your program is then coded without any further effort on your part whatsoever and the result is a fully coded program that runs independently of THE LAST ONE.

The code generated includes the error-trapping

routes that most good programmers include as a matter of course and the code is, naturally, bug-free.

Finally you can change or amend your finished program easily and without fuss. THE LAST ONE automatically produces trace documentation providing the answers to all the questions asked while creating the program. In this way, you can update and change your program using the absolute minimum of time and effort, and isn't that what it's all about!

Manufactured and distributed by D.J. 'A' Systems Ltd., Station Road, Ilminster, Somerset TA19 9BQ.

SAVE £30!

A SPECIAL OFFER TO ALL READERS OF 'WINDFALL'.

Order your copy of the Apple II version of THE LAST ONE before the end of August and you'll pay just £269 including VAT, postage and packing. That's a saving of £30 off the retail price of £299.

MONEY BACK GUARANTEE

IF THE LAST ONE DOES NOT DO WHAT WE CLAIM, YOUR MONEY WILL BE REFUNDED IN FULL.

EITHER

complete this coupon and take it to your dealer before 31st August 1982. He will deduct £30 off the regular price

OR

Order by credit card by telephoning 04605-4117 quoting your Barclaycard/VISA number.

OR

send your cheque or postal order made payable to D.J. 'A' Systems Ltd for £269 to the address below.

Complete this coupon and send to

D.J. 'A' Systems Ltd., Station Road, Ilminster, Somerset TA19 9BQ.

I wish to purchase the Apple II version of THE LAST ONE at the special price of £269 inclusive of VAT and delivery

Name _____

Address _____

Daytime telephone number _____

To the dealer: D.J. 'A' Systems Ltd will reimburse you thirty pounds on receipt of this completed coupon, provided that the completed copyright license stating the name and address of the purchaser is attached and that the purchaser has received a thirty pound discount off your regular selling price of THE LAST ONE. This coupon should be forwarded to D.J. 'A' Systems Ltd no later than two weeks after the customer transaction and in no case after 15th September 1982.

Credit card orders will be despatched by return. Cheques take a few days to be cleared.

THIS OFFER EXPIRES ON 31st AUGUST 1982

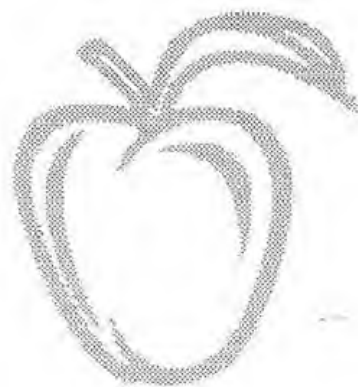
The Apple Prunings ...



December 1st 1982	Apple's sales reaches an all-time monthly high of nearly \$90 million which set a record for the industry and made Apple the first personal computer company to reach a sales rate of \$1 billion on an annualised (December X 12) basis.
January 1st 1983	Picture taken of Cupertino apple employee and Apple IIc art director Denys Gustafson-Gilmour that now graces the Apple IIc box. Before the photo was published, artists replaced the IIc prototype with the real thing.
January 4th 1983	Apple Computer and Franklin Computer announce that they have agreed to terminate the litigation commenced by Apple against Franklin in Federal Court in the Eastern District of Pennsylvania by the entry of a judgment of \$2.5 million against Franklin and Franklin's agreement not to infringe on Apple's copyright.
January 19th 1983	Starting on this date Apple offices and distributors staged twelve major events in their respective countries in Europe to announce the worldwide launch of major new Apple products: Apple IIe, Lisa, DuoFile, two new printers and AppleNet. These events were held in centrally located hotels in London, Paris, Zurich, Munich, Milan, Stockholm, Amsterdam, Helsinki, Brussels, Tel Aviv, Madrid and Dublin over a 10 day period. Lisa officially announced.
January 28th 1983	Millionth Disk II produced.
February 14th 1983	Apple presents its highest technical achievement to two of the principal engineers of Lisa, Bill Atkinson and Richard Page. Both were named "Apple Fellows."
February 21st 1983	Apple exhibits the new Lisa and Apple IIe at the Office Automation Conference in Philadelphia.
April 4th 1983	Apple Computer announces price reductions for the Apple III. Suggested retail price for Apple III with 256 bytes is \$2695 down from \$3495. The 128K Apple III will sell for \$2495, down from \$2995. Also the 128K Apple III will be dropped from the product line when current inventory is exhausted.
April 11th 1983	John Sculley elected president and chief executive officer of Apple Computer.
May 1st 1983	Between May and September 9000 computers given to California schools in the "Kids Can't Wait" program.
June 1st 1983	Macintosh logo (Picasso-like drawing of Mac) designed by Tom Hughes. (Month of June is approximate.)
June 24th 1983	Apple announces ProDOS, a disk operating system that provides increased compatibility between Apple II's and Apple III's and a higher performance for more sophisticated software applications.
July 18th 1983	Apple announces a new monochrome video display for the Apple II with a suggested retail price of \$229.
August 15th 1983	Apple introduces a multi-colour plotter for its Apple II and Apple III.
September 21st 1983	Apple announces that the previous week the company revealed to its dealer network the unbundling of the Lisa and the introduction of the \$6995 version.
October 28th 1983	\$1400 rebate package given away free with purchase of an Apple IIe or Apple III computer.
November 1st 1983	Apple begins to ship Pascal for the Lisa.
November 28th 1983	Apple announces a mouse for the Apple II. Apple announces new integrated software for the Apple II and Apple III, AppleWorks and III E-Z Pieces. Apple announces that its ProFile mass storage system will support Apple III's with the help of ProDos, Apple's new operating system for the Apple II.

December 5th 1983	Apple introduces a new dot matrix printer, the ImageWriter. Suggested retail price is \$675.
December 15th 1983	Apple announces Apple III+ with a suggested retail price of \$2995. Apple III+ features an interlace video mode that doubles the screen resolution, a clock/calendar function, repositioned cursor-control keys and a "delete" key, and operating system revisions.
January 1st 1984	Apple offers a rebate of \$300 with the purchase of every Apple IIe or IIc computer. Apple IIc becomes the first Apple to be shipped simultaneously to U.S. and International markets. During the Hanover Fair 1000 Macs sold within 3 1/2 days, and about 1800 Macs sold in 8 days. Macintosh Graphics Product Identity program won awards from IDSA (Industrial Designer Society of America), AIGA (America Institute of Graphic Arts), STA100 (Society of Typography Association, I.D. magazine Designer's Choice, and Type Directory Club. / Art director for project: Tom Hughes; Senior Designer, Clement Mok; Junior Designer, Ellen Romano. Macintosh logo designed. Tom Hughes invented design, John Casado created the illustration, Steve Jobs was involved in fine tuning the design. Clement Mok worked with Hughes on the designs for the boxes that contained the numeric keypad, the disk drive and the carrying case. Mok was also the art director for the MacPaint manual. Ellen Romano developed the overall design for the manuals.
January 4th 1984	Apple Computer and Franklin Computer announce that they have agreed to terminate the litigation commenced by Apple against Franklin in the Federal Court in the Eastern District of Pennsylvania by the entry of a judgment of \$2.5 million against Franklin, and Franklin's agreement not to infringe on Apple's copyrights.
January 24th 1984	Apple announces plans to provide current Lisa owners with a free upgrade of their systems to the advanced technology in the Apple 32 family. Apple introduces it Lisa 2 series, three new higher-performance versions of it Lisa computer. The computers give users more flexibility in both memory and mass storage. The Lisa 2 series is comprised of the Lisa 2, Lisa 2/5, and Lisa 2/10. Lisa 2 has 512K of internal memory and 3 1/2 inch microdisk drive for storage. Macintosh announced at Apple's annual shareholders meeting. Apple University Consortium announces that 24 schools have agreed to do major development on Macintosh and commit \$61 million over a three year period to the project.
January 30th 1984	Apple announces significant changes in the organisation of its product line families and executive sales management. The Company will have three product divisions: Apple II, Apple 32, and Accessory Products Division (APD).
January 31st 1984	Mike Spindler promoted to VP, European Group; John Cavalier is the new VP of the Americas, Far East and Africa Group with responsibilities for sales and marketing efforts in Canada, Latin America, Australia, Africa and the Far East. Bill Campbell is the VP of Sales for the U.S. All three areas report to Floyd Kvamme, Executive VP of Marketing and Sales.
March 20th 1984	Apple introduces Apple Access 3270, a program that works with an Apple Cluster Controller or an AppleLine coaxial attachment to emulate an IBM 3278 Model 2 terminal. This allows the Apple II to communicate with all mainframe, mini and personal computers that support IBM 3270 communications.
April 6th 1984	Macintosh reaches its 100-day sales goal of 50,000 units.
April 24th 1984	More than 52,000 Apple IIc orders were placed at the computers introduction at Moscone Center in San Francisco. The event drew 2000 dealers, hundreds of press people and national media attention. Apple introduces a series of accessory products for use with the Apple IIc at the Apple II Forever product exposition in San Francisco. These products include a multi-colour high-quality thermal printer, a high-resolution monochrome monitor and stand, a mouse pointing device, external disk drive, external power pack and a carrying case. The new computer and accessories are the first Apple products in the new "snow white" style. Apple announces to employees that no further product development shall be initiated and undertaken for the Apple III product line. (Apple III is discontinued.)
April 24th 1984	Apple IIc officially announced.
May 1st 1984	Cork begins producing customised Macintosh computers for the UK, France, Germany, and Italy.
May 3rd 1984	Apple announces that it has shipped more than 70,000 Macintosh computer since the product was introduced January 24th.
May 15th 1984	University of Texas at Austin order 13,000 Macintosh computers for a total cost of \$24,708,287.
July 9th 1984	Introduction of MacTerminal, a communications software package that allow the Macintosh to interact with mainframe and minicomputers as well as electronic information services. Introduction of the AppleColor Monitor 100, a 12" RGB monitor that works with Apple IIe, Apple III and Apple III+ computers. Price is \$599. Introduction of Macintosh Pascal.

The Apple Prunings ...



- August 6th 1984** New MacWorks included with every Lisa 2, 2/5 and 2/10. The new version of MacWorks takes advantage of hard-disk storage while running Macintosh software.
- September 10th 1984** Price of the Macintosh 128K lowered to \$2195.
Apple introduces the Macintosh 512, three months before its scheduled announcement, with a suggested retail price of \$3195. U.S. and international markets were introduced simultaneously to the Macintosh 512K, nicknamed the "Fat Mac."
- November 1st 1984** Two millionth Apple II sold. Apple announces the "Test Drive a Macintosh" promotion.
- March 18th 1986** The Apple University Consortium expands to include eight more schools. Joining the consortium are Massachusetts Institute of Technology, University of California at Berkeley, University of Illinois at Champaign-Urbana, University of Maryland, Drake University, Emory University, and Franklin and Marshall College.
- July 27th 1987** Graphics technologies and solutions for the engineering/scientific market will highlight the Apple Computer exhibits at SIGGRAPH '87 in Anaheim, CA. Focus will be use with the Macintosh II. Featured technologies will include large, very high-resolution colour monitors, color video and animation, and sophisticated Mac II audio capabilities.
- November 23rd 1987** The Mac SE has the digitised portraits of the Mac SE team resident in the ROM of the SE. To access these portraits, one needs to have the programmer's switch installed on the left of the SE. Press the interrupt switch gently and a white box will appear on the screen with a '>' prompt.
At the prompt, type "G 41D89A" and hit the return key. The slide show begins! (Some SE's do not have the portraits due to different ROM versions.)
- January 15th 1988** Apple makes these announcements at MacWorld in San Francisco:
Alliance with Digital Equipment Corporation (DEC) to integrate key products and systems from Apple and DEC.
Introduction of the LaserWriter II family of printers — The LaserWriter IITX, LaserWriter IINT and the LaserWriter IISC.
- March 1st 1988** Apple announces the AppleCD SC, a compact disk, read-only memory drive. The CD-ROM drive will work with Macintosh and Apple II computers and can be shared by connecting to an AppleShare File Server. The drive may be daisy chained to as many as six other SCSI devices.
Suggested retail is \$1,199.00 and is expected to ship in May. Apple IIe and IIGS will need a SCSI card installed. The SCSI card retails for \$299.00.
- March 3rd 1988** Apple's Macintosh II chosen for TI's new AI computer system. Apple Computer and Texas Instruments announced the microExplorer computer system, equipped with Texas Instruments' Explorer Lisp coprocessor board and advanced software environment. This agreement with Texas Instruments is one of Apple's largest VAR agreements to date for the Macintosh family of personal computers.
- March 7th 1988** Apple exhibits at the Spring National Design Engineering show for the first time. A/UX, Apple's UNIX operating system and VAX-Macintosh connectivity will be demonstrated in the Apple booth along with engineering solutions and third party engineering applications.
- March 15th 1988** Apple announces price of the Macintosh Plus is reduced from suggested retail of \$2,199 to \$1,799. The Macintosh Plus features a 9 inch diagonal screen, 1 megabyte of RAM (expandable to 4 megabytes, 800K disk drive, 2 RS-422 serial ports, 1 SCSI parallel port, a detached keyboard and mouse. Each Macintosh is bundled with MultiFinder operating system and HyperCard software. The HD 20SC is reduced from \$1,299 to 1,099; the HD 40SC from \$1,999 to \$1,699 and the HD 80SC from \$3,199 to \$2,799.
- April 21st 1988** Kiosks featuring Macintosh computers and HyperCard software will help attendees navigate the A/E/C Systems Show held in Chicago during May 2-5.

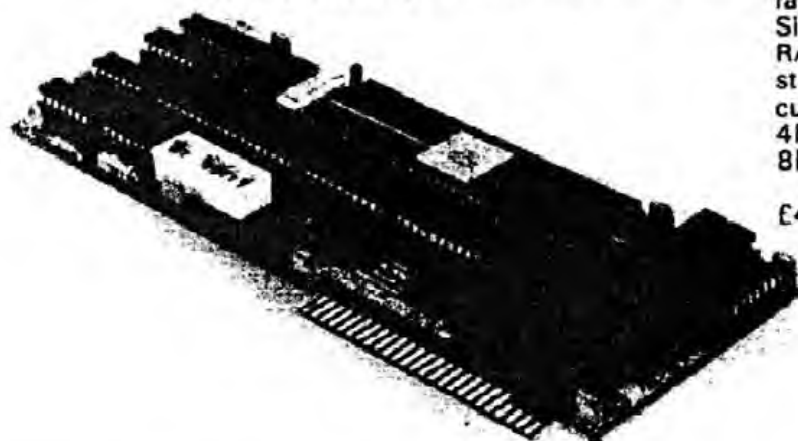
The Apple II gets
the 68000 before
the Macintosh!
January 1982

Motorola chip boosts Apple performance

A Motorola 68000 processor chip has been incorporated on a PCB by Simon Computers designed to substantially improve the performance of the Apple.

The 68000 has a more powerful instruction set than the Apple, and its enhanced circuit complexity gives it a relative performance five times greater than the 6502.

This means that a more efficient assembler is available, saving considerable programming time and providing programs which can run simultaneously on the 68000 processor and the 6502.



The package comes with a menu driven assembler, which enables the user to learn and use the 68000 very quickly, and a symbolic assembler which uses 6502 subroutines for basic I/O. The operator has the option of which processor to use, to optimise the running of complete programs.

The 68000 processor has an internal 32 bit structure, giving it a wide address range. In order to take advantage of this Simon Computers are to launch a 128k RAM expansion card for the Apple, as the start of a range of 68000 packages. The current clock speed of the 68000 is 4MHz, which will be upgradeable to 8MHz when the 128k RAM is installed.

The cost of the Aristocard 68000 is £475.

*Aristocard 68000
gives the Apple a
five-times boost*

5MB 5¼" WINCHESTER FOR APPLE II

- LOWEST COST/MBYTE FROM ANY UK SUPPLIER
- SINGLE APPLE CONTROLLER
- PASCAL COMPATIBLE "DROP IN" BIOS
- DEDICATED APPLE II
- LICENSED "PROTECTED SOFTWARE"
OPERATING SYSTEM *(only available to bona fide Software Suppliers)*
- FAST DELIVERY

LOWEST U.K. PRICES

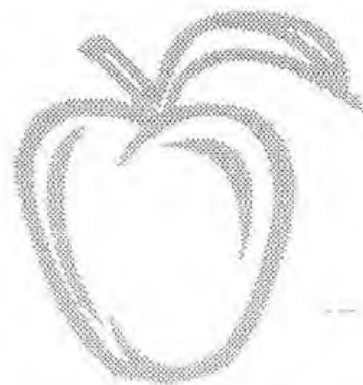
Recommended Retail Price

£1,450.00

For further details contact:

SYMBIOTIC COMPUTER SYSTEMS

The Apple Prunings ...



June 28th 1988	Apple announces the formation of the 1000th user group. The one thousandth user group, EPRI MUG was preceded by Group 999 from the Indiana University of Pennsylvania and followed by group 1001, GS4U, an Ohio based group focusing on the Apple IIGS.
August 8th 1988	Apple announces the shipment of five products that expand and enhance its AppleTalk Network System. These products were introduced in March and the suggest retail prices are as follows: AppleShare file Server, \$799; AppleShare Print Server, \$299; Aristotle, \$199; Apple II Workstation Card, \$249; Apple IIGS Workstation Software, \$99; and Inter.Poll Network Administrator's Utility, \$129.
August 1988	Apple announces the creation of four internal divisions, each to function as independent operating units. Del Yocam is named President of Apple Pacific, Jean-Louis Gasse is named President of Apple Products, Allan Loren is named President of Apple USA, and Michael Spindler is named President of Apple Europe.
September 19th 1988	Macintosh IIx is introduced. The Mac IIx uses the Motorola 68030 microprocessor and incorporates FDHD (Floppy Drive High Density). The FDHD accommodates a 1.44MB floppy disk and can read and write to MS-DOS, OS/2 and ProDOS formats. A 4MB/FDHD Macintosh IIx system retails for \$7,769. The Apple IIc Plus is introduced. It is faster and less expensive than the original Apple IIc it replaces. (Apple IIc discontinued.) An Apple IIc Plus color system retails for \$1,099. GS/OS, the enhanced operating system for the Apple IIGS is announced. The Macintosh SE 2/40 is introduced. The Mac SE 2/40 features 2 megabytes of RAM a 40 megabyte internal hard drive. Suggested retail is \$5,069.
January 20th 1989	John Zeisler, vice president of Marketing for Claris, announces the introduction of MacWrite II and MacDraw II, version 1.1. MacWrite II is due to ship in February, suggested retail \$249.00. MacDraw II is also due to ship in February, suggested retail is \$399.00.
February 23rd 1989	To date Al Alcorn, Bill Atkinson, Alan Kay and Steve Wozniak are Apple Fellows. Currently the Apple Fellows report to Larry Tesler, vice president of Apple's Advanced Development Group.
April 1989	The Macintosh 512k is discontinued. It is replaced by the Macintosh 512ke. The enhanced Macintosh has more power and a double-sided disk drive.
September 20th 1989	Apple introduces the Macintosh Portable. The Mac portable uses a CMOS 68000 processor at 16 megahertz. Additional features include: 1 megabyte RAM expandable to 2 megabytes; one 3.5 1.4 megabyte FDHD SuperDrive, optional 40 megabyte SCSI hard disk drive; Active Matrix LCD (640 by 400 pixel bit-mapped display); internal modem; stereo sound port; built-in AppleTalk; and power adaptor. The portable can run 6 to 12 hrs. on a single battery charge. Apple introduces the Macintosh IIfx. The event was broadcast from Los Angeles. Allan Loren, John Sculley and Jean-Louis Gasse participated in the introduction. The IIfx sports the same design as the IIcx but is more powerful with a 68030 processor at 25 megahertz. The IIfx is 45% faster than the IIcx. Features include: 3 internal NuBus expansions slots; a 68882 floating-point math coprocessor; built-in video support; and an FDHD SuperDrive. Apple quietly discontinues the Macintosh II. (Date approximate.)
October 15th 1990	Apple announce a new low cost Macintosh the Classic. It replaces the MacPlus and SE range. Apple announces a low cost colour Macintosh the Macintosh LC.
Anytime 1991	Apple announce

The Apple Historical Database was established by Len Holmquist of the Apple Library in 1985.
The database originally ran on an Apple III using the PFS/file program to organise the data
and to be able to search and print records. © Jane Oros, Apple Library

Who invented What ...



Atkinson, William D.	29 March 1988	Display System
Atkinson, William D.	11 November 1986	Method and apparatus for image ...
Azizi, Sohiel	13 May 1986	Method and apparatus using a multifaceted...
Baker, Paul A.	18 April 1984	Memory management unit for digital..
Bruffey, Bill M.	5 May 1988	Hierarchical filing system..
Butts, Gary C.	25 June 1985	Spiral spring keyboard switch ...
Clark, Michael	25 February 1987	Peripheral Bus
Dresselhaus, William F.	5 October 1982	Front panel for floppy disk drive
Farand, Tobin E.	5 October 1988	Video apparatus employing VRAMS
Fitch, Jonathan	21 September 1988	A computer with expansion slots...
Fitch, Jonathan	21 September 1988	Card for computer with expansion...
Gemmell, Rob J.	27 January 1987	Personal computer housing
Gemmell, Rob J.	24 February 1987	Housing for electrical circuit...
Gemmell, Rob J.	3 March 1987	Switch body
Gemmell, Rob J.	17 March 1987	Power supply housing
Gemmell, Rob J.	19 May 1987	Flat panel display...
Hertzfeld, Andrew J.	14 August 1985	Sound generation and disk...
Hochsprung, Ronald R.	28 April 1987	Local area network with carrier..
Holt, Frederick R.	19 December 1978	DC power supply
Hovey, Dean	29 March 1988	Cursor control device
Howard, Robert A.	1 August 1989	Computer monitor stand
Jobs, Steven P.	12 April, 1983	Personal Computer
Jordan, Richard	14 August, 1984	Disk drive with automatic clamping...
Justice, Gregory	16 March, 1982	Auto balancing duplexer for communication...
Lapson, William F.	8 May, 1986	Computer controlled display system
Lapson, William F.	7 Aug, 1984	Cursor control device for use with display...
Mackenzie, William	17 May, 1988	Modem
Manock, Jerrold C.	25 Oct, 1983	Dual disk drive
Manock, Jerrold C.	17 June, 1986	Housing for movable cursor control...
Manock, Jerrold C.	9 June, 1987	Disk drive case
Mohme, Rodger	2 November, 1988	Self-identifying scheme
Moore, Robin B.	22 November, 1988	Method and apparatus for generating RGB...
Morris, Lyle E.	27 December, 1988	Keyboard crosspoint encoder ...
Muller, Michael	27 July, 1982	Actuator for keyboard switches
Muller, Michael	1 February, 1983	Keyboard switch having combined...
Muller, Michael	29 November, 1983	Keyboard Switch
Norman, George	26 October, 1988	Determining computer resource configuration
Oyama, Terrell A.	27 March, 1984	Computer data display monitor
Patel, Shallesh	17 November, 1987	Voice coil balanced actuator
Peart, Stephen	7 October, 1986	Printer housing
Peart, Stephen	7 July, 1987	Monitor stand
Peart, Stephen	7 July, 1987	Laser printer
Perlman, Stephen	16 December, 1987	Video display apparatus
Roots, David	7 October, 1986	Keypad
Roots, David	7 October, 1986	Disk drive housing
Sander, Wendell B.	6 February, 1985	A circuit for providing a digitally-controllable...
Sander, Wendell B.	10 May, 1983	computer with a memory system..
Sander, Wendell B.	6 August, 1985	Computer with a color display
Sander, Wendell B.	3 May, 1988	Integrated floppy disk drive...
Sidhu, Gursharan S.	25 August, 1987	Local area network with self assigned...
Smith, Robert S.	26 April, 1988	Apparatus for driving liquid crystal display...
Stewart, James R.	3 April, 1984	Hard Disk Drive
Thompson, Laurence A.	7 April, 1988	Enhanced video graphics controller
Woolley, Richard N.	14 January, 1986	Error detection system
Wozniak, Stephen G.	14 July, 1981	Digitally-controlled color signal generation
Wozniak, Stephen G.	23 January, 1979	Microcomputer for use with video display
Wozniak, Stephen G.	1 July, 1980	Controller for magnetic disc recorder...
Wozniak, Stephen G.	12 August, 1980	Apparatus for digitally controlling..

Bryn Jones has the last word



The Future

This new Mac III Turbo is the bee's knees old boy. You load your programs from the magnetically levitated hover disk into the 100 Gigabyte supercooled memory, and the 60 Mhz triple parallel 68080 processors knife through it like there's no tomorrow. You can even convert the thing into a dining table!

And that new System 15 version 24.32 is unbelievable. Voice operated three dimensional hierarchical directories make simultaneous multiple file access a complete snip. Just raise your voice and you go up a directory. Last time I sneezed the hover drive took off and went for a buzz round Heathrow. Nothing that a few simple precautions won't cure of course. Just back up regularly and muzzle the dog.

As for frontend, you've seen nothing like it. Elegant see-through holographic displays feature a menu bar backed up by your favourite symphony orchestra. If you view this through the optional environmental isolation goggles you can blank out Wogan altogether. Total ambiance control is achieved by the fully automated, sex sensitive, bidirectional odour controller. When 'Bonzo' walked past, it dished out 'Chanel No. 5' and recommended a well known brand of personal hygienic disposables. Oh well, that's sponsorship I suppose.

Of course, the fully programmable desktop accessories are out of this world. I was able to customise my Prince Charles soldier immersion timer using the new super compression hyper noddy code, and still keep it down to five megabytes. For mother's day, a quick mod to the calendar program will transmit a thirty million colour floral tribute just before Neighbours. If you're a serious programmer, the absolutely essential forest protecting 500 volume development library can be delivered by Pickfords lorry.

Honestly, those Apple chaps have thought of everything. Start loading the operating system before you go to bed at night, and you're ready to go after breakfast. There'll even be a word processor 'real soon now'.

Expensive? Not a bit of it. This is a real mass market product available on truly astonishing terms. After all, why pay for the Mac with a second mortgage on the house when you can pay for the house with a second mortgage on the Mac?

What's that? You're still using a Ilfx! Just bin it, old boy.

Bryn Jones August 1990

